

amateur radio

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



VOL. 47, No. 7

JULY 1979

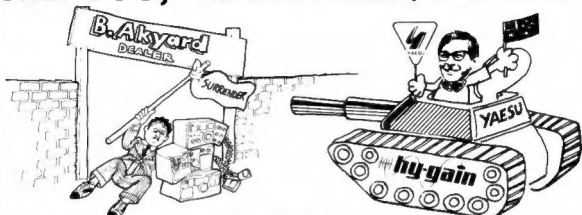
FEATURED IN THIS ISSUE:

- ★ 25 cm VERTICAL FOR HF MOBILES
- ★ WATCHING SUNSPOTS
- ★ KULROD STORY
- ★ REMEMBRANCE DAY CONTEST 1979 — RULES
- ★ 1979 FEDERAL CONVENTION

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amateur radio

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Acknowledgement may not be made unless
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otherwise and the seller has made specific
provision to this effect in his quotation to
the buyer or unless other prior arrangements
are in force between the buyer and the
seller.

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Cover Photo

A BIT OF NOSTALGIA

With thanks to R. N. Torrington VK3TJ for supplying the photo, here is a picture of the Zero Beal Radio Club Field Day at Lansdowne Bridge, Carramar, NSW, 1936. Those identified are:

STANDING: Basil Dale VK2XX (now VK2AAX) 2nd left, Mrs. Stocks 3rd left, Noel Smith 4l, Cam Moginie VK2CN 5l, Peter Mulligan VK2ABH 6l, Clive Hutchison VK2YP 8l, Harry Whytehead 9l, Bob

Fussell VK2SS 10l, John Gue 11l, P. Torrington VK2TJ 12l.

SEATED: Les Stocks 2l, Bill Piggott VK2WN 3l, Harry Branson 4l, Andy Kerr VK2AX 7l, George Shelley VK2QF 8l, Russ Miller 10l. VK2s ABH, YP and AX still hold these calls.

Is anyone able to identify any of the others?

WIRELESS INSTITUTE OF AUSTRALIA

Federal President: Dr. D. A. Wardlaw VK3ADW

Federal Council:

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VK3 Mr. G. A. G. Williams VK3ZXW

VK4 Mr. A. R. F. McDonald VK4TE

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VK6 Mr. N. R. Penfold VK6NE

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Mr. P. Simmons (AR advertising).

Executive Office: P.O. Box 150, Toorak, Vic., 3142.

2/517 Toorak Rd., Toorak, Ph. (03) 24 8652.

Divisional information (all broadcasts are on Sundays unless otherwise stated):

ACT:

President — Mr. A. Davis VK1DA

Secretary — Mr. F. Robertson-Mudie VK1NAV

Broadcasts — 3570 kHz and 2m Ch. 6 (7) 7: 10.00Z.

NSW:

President — Mr. F. S. Parker VK3NFF

Secretary — Mr. T. I. Mills VK2TFM

Broadcasts — 1825, 3595, 7149 kHz, 28.32, 52.1, 52.525, 144.1, 145.5, 146.4, Rptr. Ch. 3 — Gosford, Ch. 4 — Lismore, Ch. 5 — Wollongong, Ch. 8 — Dural. Evening 0930Z. Relays on 160, 50 and 10m, VHF and Rptr. Ch. 3, Ch. 5, Ch. 8, and Hunter Branch, Mondays 0930Z on 3595 kHz, 10m, and Ch. 3 and 6. RTTY Sunday 0030Z 7045, 14090 kHz, Ch. 52, 0930Z 3545 kHz, Ch. 52.

VIC:

President — Mr. E. J. Buggie VK3ZZN

Secretary — Mr. J. A. Adcock VK3ACA

Broadcasts — 1840, 3800, 7135 kHz — 53.03Z AM, 144.2 USB and 2m Ch. 2 (5) repeater: 10.30 local time.

QED:

President — Mr. A. J. Aarsse VK4QA

Secretary — Mr. W. L. Gliosis VK4ABG

Broadcasts — 1825, 3580, 7145, 1434Z, 21175, 28400, kHz; 2m (Ch. 42, 48): 09.00 EST.

SA:

President — Mr. I. J. Hunt VK5GX

Secretary — Mr. W. M. Wardrop VK5HWM

Broadcasts — 1820, 3550, 7095, 14175 kHz; 28.5 and 53.1 MHz, 2m (Ch. 8): 09.00 S.A.T.

WA:

President — Mr. Ross Greenaway VK6DA

Secretary — Mr. Peter Savage VK6HCP

Broadcasts — 3550, 7075, 14100, 14175 kHz, 28.495, 52.290 MHz, 2 metres Ch. 2 Perth, Ch. 6 Wagin. Time 0130Z.

TAS:

President — Mr. I. Nicholls VK7ZZ

Secretary — Mr. P. T. Blake, VK7ZPB

Broadcasts — 7130 (AM) kHz with relays on 2m Ch. 2 (5), Ch. 8 (H), Ch. 3 (NW), 69.30 EST.

NT:

President — Dick Klose VK8ZDK

Vice-Pres. — Barry Burns VK8BD

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Broadcasts — Relay of VK5WV on 3.55 MHz and on 146.5 MHz at 2330Z. Slow move transmission by VK8HA on 3.555 MHz at 1000Z almost every day.

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VK2 — 14 Aichison St., Crown Nest, 2085 (Ph. (02)

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P.O. Box 123, St. Leonards, NSW 2065.

VK3 — 412 Brunswick St., Fitzroy, 3065 (Ph. (03)

41 3535 Weekdays 10.00-15.00h).

VK4 — P.O. Box 638, Brisbane, 4001.

VK5 — G.P.O. Box 1234, Adelaide, 5001 — HQ at West Thabbaron Rd., Thabbaron.

VK6 — G.P.O. Box N1062, Perth, 6001.

VK7 — P.O. Box 1010, Launceston, 7250.

VK8 — (incl. with VK5), Darwin Air Club, P.O. Box 37317, Winnellie, N.T., 5788.

Slow move transmissions — most week-day evenings about 09.30Z onwards around 3550 kHz.

VK QSL BUREAU

The following is the official list of VK QSL Bureaus, all are inwards and outwards unless otherwise stated.

VK1 — QSL Officer, G.P.O. Box 46, Canberra, A.C.T. 2600.

VK2 — QSL Bureau, C/- Hunter Branch, P.O. Tareba, N.S.W. 2284.

VK3 — Inwards QSL Bureau, Mr. E. Trebilcock, 340 Gillies Street, Thornbury, Vic. 3071.

VK3 — Outwards QSL Bureau, Mr. R. R. Prowse, 83 Brewer Road, Benlough, Vic. 3204.

VK4 — QSL Officer, G.P.O. Box 638, Brisbane, Qld., 4001.

VK5 — QSL Bureau, Mr. Geo. Luxon VK6RX, 205 Belair Road, Torrens Park, S.A. 5062.

VK6 — QSL Bureau, Mr. J. Rumble VK6RU, G.P.O. Box 3319, Perth, W.A. 6001.

VK7 — QSL Bureau, G.P.O. Box 371D, Hobart, Tas. 7001.

VK8 — QSL Bureau, C/- VK3HA, P.O. Box 1418, Darwin, N.T. 5794.

VK8, 9 — Federal QSL Bureau, 23 Landale Street, Box Hill, Vic. 3128.

QSP —

THE WIA AND YOU

The Federal Convention having been and gone, one must be broad-minded enough to sit back and review the effectiveness of the meeting and whether the members of the WIA and the Amateur Service generally have benefited from the exercise.

A report on the proceedings will come from Executive in due course, and although the policies of the WIA show no radical changes for the year ahead, attitudes of members and the Amateur Service generally, need to be examined to determine if adequate inputs are being received so that meaningful decisions can be made by the Institute.

It has been often and rightly said that the members ARE the Institute. Generally speaking, criticism of the Institute is warranted if it acts contrary to the wishes of members, but there is an increasing feeling that members, individually or acting through their Divisional Councils are unperturbed at the direction their hobby is heading and the potential encroachments in their spectrum.

As a case in point and of topical interest is WARC 79.

Quoting exceptions such as some radio clubs and industry, feed-back from members has, in short, been apathetic.

The meeting details of WARC will be history after September but what of the future? Any new bands will be a bonus — the converse is obvious, yet what contingency plans does the Amateur Service have if it suffers a reduction in its facilities?

One answer lies in improving the amateurs' image — an image currently viewed in many circles as equaling that of CB radio. An examination of current technical licensing standards leaves much to be desired with the "appliance operator" perfectly catered for.

How much better it would be if incentives were given in the form of additional or extended bands in return for an increased standard of technical awareness and expertise!

As President of our newest division I am also concerned that our national image as the official voice of Amateur Radio is not making sufficient and significant impressions.

When the tumult of WARC 79 subsides, Institute policy must be regenerated in the areas of direction and purpose. Improving our lot to obtain increasing credibility and efficiency must be our next priority for the 80s.

ANDREW DAVIS VK1DA
Divisional President of ACT Division. ■

WIANEWS

Members will be interested to know that the Minister for P. and T. personally telephoned the Federal President on 25th May to assure him there would be no increase in the amateur licence fees resulting from the mini budget announced in Parliament the previous evening.

FEDERAL CONVENTION

1979 Federal Convention notes appear in greater detail elsewhere in this issue than could be prepared in time for the June issue of AR. The Federal President comments that many people believe that Federal Conventions are dull and uninteresting. By their very nature these Conventions must handle controversial and other topics of the day in as much unemotional detail and depth as possible to enable solutions to be found which are acceptable throughout Australia and can receive majority support.

Federal Conventions are very much a multiple interchange of views as well as being a forum of common agreement on matters affecting the amateur service in our land.

The Federal Executive in Melbourne has to be made aware of current Federal Council thinking on a wide range of topics if it is to function properly throughout the rest of the year. Conversely, Divisional delegates must be made aware of the multitude of considerations which influence actions at the central focal point of the WIA. Much can be committed to writing but neither the Executive nor the Divisions can function in vacuo as isolated units.

This is what makes the WIA tick. Those who return to their Divisions take back with them an immense background of information to pass on to their Divisional Councils and membership in general. This way dispels local ignorance by enabling Federal Councilors to explain the reasons for particular actions or lack of them. An informed cohesive membership is more than ever necessary in this day and age of national and international pressures, intrigue and political expediences. This is what Federal Conventions are all about and why they appear dull to the spectator. Perhaps there is no word yet coined to replace the word "Convention".

Newcomers to the WIA take note. If you believe some aspect of amateur radio requires changing take it up with your Division. If it is of sufficient moment it will most certainly be presented to the Federal Council, either in Convention or otherwise, for nationwide debate and decision.

JOINT COMMITTEE

There was a Joint P. and T./WIA Committee meeting on 23rd May, attended for the first time by Mr. Jim Wilkinson, First Asst. Secretary P. and T. Department Radio Frequency Management Division. Michael Owen was a member of the WIA team and, as might be expected, the main topic of discussion was the proposed new legislation to replace the 1905 Wireless Telegraphy Act and its train of Regulations. It is now possible to see how the WIA's view of the amateur service can be made clear to those involved in drafting the proposed legislation in a much better way, perhaps more effectively, than previously thought.

REGULATIONS AND HANDBOOK

So many of the restraints and restrictions on what amateur operators may or may not do stem from the Regulations. There has been consistent talk at high levels about the need for self regulation of services. The Handbook revised edition has been stopped in mid-stream. Much work has gone into the revision and a lot more is now happening. The constraint, however, is that it must parallel the existing Regulations. All the more reason to do everything possible for the amateur service to make its views properly known in good time for the proposed new legislation. This is being done at the Executive level, well briefed and instructed in Federal Council policies and requirements.

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A new set of terms of reference of Amateur Advisory Committees is to be forwarded to the WIA for comment.

AUGUST EXAM

It appears likely that the August AOC examination will give candidates the choice of answering either (i) the existing essay style of format or (ii) a 50 multi-choice question paper. There is at last some hope that the style of the Novice Morse exam has achieved the kind of standard long advocated by the WIA.

SIX METRE REPEATERS

The Department agrees in principle to granting approval for some 6 metre repeaters on a trial basis, but these would have to be well outside TV Channel 0 reception areas.

Another item which is now to be allowed by the Department on a 12 month trial basis is the F5 mode on the 32 cm band. Here again, individual applications would receive consideration by the Department.

1979 CALL BOOK BEGINS TO TAKE SHAPE

The Publications Committee has spent much time on the 1979 Call Book. The output of our EDP programme will be incorporated into a tape for direct typeset print-out as opposed to the process used for the 1977 Call Book, which was done direct from the actual computer print-out. Compatibility has been established and every hope is expressed that the final printed version will be good.

Excellent co-operation from the P. and T. Department has ensured that the latest possible call sign information will be no more than about two or three months old by the time it appears in print.

OFFICE AND AR

At the May meeting of the Executive a decision was made to approve in principle the publication of a Call Book in 1980. This meeting also approved the appointment of a new member of the Executive office to undertake a wide range of routine work associated with the production of AR, in addition to servicing advertisers and generally learning the work and functions of the office, so as to become an effective assistant to the Secretary-Manager. This post had been the subject of discussions at the Convention brought about through representations that AR had outgrown the continuing efforts of volunteers and unless something was done quite soon the very future of the magazine in its present form could not be guaranteed.

Intensive investigations were carried out prior to the Convention to examine a very wide range of magazine production methods. Details of the outcome of these researches were reported to the Convention in an Executive paper. Federal Council agreed with the proposals that the bulk of the day-to-day drudgery associated with putting together a journal such as AR should become one of the major duties of a new recruit in the office. This had special validity since the expenses involved would not be materially greater than is already expended on salary for an advertising representative, honoraria and allied subjects. The increased volume of work flowing through the Executive office also had relevance to this decision.

Mr. Mark Stephenson VK3NOY, a young man who has displayed great interest in Institute affairs for some time, was appointed to the position with effect from 28th May. It is hoped he will successfully conclude his probationary period and become a valued long-term employee of the Institute.

WIA BANNER

The Executive commissioned the production of a large 9 ft. x 3 ft. banner as a display item and this was on show at the Convention with posters and other material. The banner is now available on loan, under certain conditions because of its quite considerable cost, to Divisions for display at major amateur events.

WARC 79 DONATIONS LIST No. 3

The Executive wishes to acknowledge with grateful thanks the receipt of the following donations for WARC 79 from members.

VK4NLX	3.82	VK3NNH	10.00
VK3CX	7.00	VK2NDJ	6.00

9" x 6" SPEAKERS — brand new in cartons, 4 ohm impedance, ideal for car cassettes, radios, etc. \$4.00 each
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MARCH 1979	\$
Dick Smith Electronics	500
Vicom International	1000
Bail Electronics	500
Chirnside Electronics	100
Scalar Industries	50
Elmeasco Instruments	25

These are entitled to the use of the WIA emblem and the words: "WARC Amateur Supporter" in their advertising displays.

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VK3NFE	3.00	VK3NF	10.00
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VK5GU	9.10	VK4TS	11.50
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members	74.00	VK3ABR	20.00
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L30357	8.00	VK2MA)	110.00

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WA VHF Gp. (Inc.)	54.00
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QSP

JOTA

The date of the 22nd Jamboree on the Air this year is 20th-21st October, 1979, from 0900h on the 20th to 23.59h on the 21st.

One of the biggest single events of the 150th Anniversary celebrations of Western Australia will be the 4th Asia Pacific (12th Australian) Jamboree in Perth from 29th December, 1978, to 7th January, 1980. Up to 1,200 Scouts, local and overseas, are expected to attend. Scout Amateur Radio VK6SH, of Box 7, West Perth 5005, will be the special station for the event.

The Australian Radio Scout Net is held on the first Sunday of each month from 09.30h EST on 7090 kHz ± QRM and then QSYing to 14190 kHz an hour later. The net station is VK4QH. Special Novice classes for Scouts have begun in VK3 by VK3TR, Branch Organiser for JOTA in VK3.

AMATEUR RADIO — VIDEOCASSETTES

is your Club or Group looking for high class promotional material for amateur radio?

Ask your Division for the loan of videocassettes in colour. Titles available now are—

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This was specially produced by VK5KG, the Federal Videotape Co-ordinator, for the CGIR Seminar in Sydney.

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ARRL films (30 minutes in all).

"ATV in Australia 1978" (30 minutes).

"VK3 ATV History" (30 minutes).

"VK3 — official opening of Burley-Griffin Building" (60 minutes).

"QSGC Annual Circus" (90 minutes). Do special loan ONLY.

Also, a service exists for copying any of these titles (except QSGC Annual Circus) on your own cassette. You pay postage both ways.

CLUBS — Why not start your library now, write to your Division or direct to VK5KG.

NOTE — Educational tapes are now being considered but please wait for an announcement in AR.

NAMES OF COUNTRIES

Want to know the correct official names of countries? The ITU Telecommunication Journal often lists names as officially notified by the Administrations of the countries concerned. In the January 1979 issue the following appear — The Federal and Islamic Republic of the Comoros, The Democratic Socialist Republic of Sri Lanka, The Republic of Suriname. In the March issue we note "People's Revolutionary Republic of Guinea".

4U1ITU

There is an ever increasing volume of visitors to Geneva, according to January 1979 Telecommunication Journal's Radio Amateur notes, making it impossible for radio amateurs on the staff of the ITU to meet requests for station operation unless advance notice is given. A licensed radio amateur wishing to operate from 4U1ITU should write to "The Station Manager of 4U1ITU, PO Box 6, Place

des Nations, CH-1211, Geneva 20, Switzerland" so that his letter arrives at least four weeks in advance of the proposed visit. Operators will have to demonstrate their ability to use and tune the 4U1ITU gear because of past damage by operators unfamiliar with the station equipment. All QSL cards from 4U1ITU are made out at the time of the contact and go via national Bureaux; do not ask for a direct QSL.

USA BAN ON LINEARS 24-35 MHz

QST December 1978 reports on a speech by FCC Commissioner White relating to the FCC ban on the manufacture, importation and marketing of linears capable of operating from 24 to 35 MHz. Commissioner White is reported as saying — "There is no question that there is an increasingly serious problem of TV interference or TVI caused by the use of linear amplifiers operating on or near the 27 MHz CB band . . . I believed that the type-acceptance program was all that was necessary, that a linear ban would not be effective and that to include it was regulatory overkill for cosmetic purposes . . . Finally, I felt the Commission did not adequately explore the proposal from the industry to provide an opportunity for self-regulation through the proof of licence at point of sale. An amateur simply would have to present a valid amateur licence to buy an amplifier from a retailer. Although there may be some problems with this proposal, such as in the case of

mail orders where licence verification would be difficult, it was certainly a more reasonable and fair approach than the ban."

MOROKULLEN FOR PHILATELISTS

Morokullen is located on the borders of Norway and Sweden and was founded in 1959, the UN Refugee Year. ARIM — Amateur Radio in Morokullen — operates under the call signs LG5LG/SJ5WL. In the period 1st June to 15th September this year a special envelope will be available carrying both a Norwegian and a Swedish stamp. The price will be \$US2 or 7 IRCs and the address of ARIM is Kongsgraven 3, N-2200 Kongsvinger, Norway.

WAC ON 2m

GW4COT is close to achieving WAC on 144 MHz, having already worked 5 continents on moonbounce. He lacks only Australia to complete his WAC. G3LTF has already received his WAC moonbounce certificate for 432 MHz, but nobody has yet achieved this on 144 MHz. Red. Comms, March 1979. Later news has it that GW4COT has now worked VK6MC on 2m to complete his WAC on 2.

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A 25 cm VERTICAL FOR HF MOBILES

Tim Hunt VK3IM

I began operating mobile with a large helical antenna and then heard about increased efficiency from the use of capacitance hats. I kept increasing the size of the capacitance hat and decreasing the length of the antenna: then I went into the theory and I found that it had all been done before, about 35 years ago!

Here are some details of one of my small top-loaded verticals.

The height of the antenna is the length of the coil stock plus an extra inch or two both at the top and at the bottom. With a capacity hat 2½ feet in diameter and having six spokes, the antenna will operate on 3.5 to 28 MHz simply by shifting the position of the alligator clip tap on the coil and reapeaking the 100 pF variable capacitor. My present capacity hat is made from aluminium tubing and covered with aluminium wire netting in order to increase the capacity. I have also made up a 4 foot diameter capacity hat which is sometimes used with a 8 foot vertical on top of the car roof!

With regard to the matching, the capacitor is set at about ¼ capacity and the alligator clip is run up and down the coil until maximum received signals are obtained. Then on transmit the capacitor and tap are carefully juggled until a 1 to 1 SWR is obtained at the desired operating frequency. The bandwidth of the antenna on 3.5 and 7 MHz is about 10 kHz, becoming larger on the higher frequencies. However a reapeak of the variable capacitor will bring it down to acceptable limits over a much wider bandwidth.

There is nothing magical about the 2½ foot diameter associated with the capacity hat. The only "design" considerations were:

- It had to fit in the car when dismantled and
- It shouldn't look too conspicuous.

Within reason, it is always desirable to make the diameter of the hat as large as possible and the vertical section as long as possible — consistent with resonance as a quarter wavelength. The most lossy component in the antenna is the coil and large capacity hats imply small coils.

In order to reduce ground losses, a good earth connection is essential. My

ground connection is a wire soldered to the middle of the car roof! The antenna is located in the middle of the car roof to ensure reasonably uniform radiation in all directions. Mounting the antenna at the front, back or side of the roof gives the antenna strong directivity (and also some power gain in the direction of maximum body area). I have used the antenna on the lawn, making a reasonable ground plane by driving in a ground stake and laying aluminium foil along the ground.

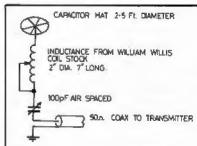
Another consideration is the length of the vertical section. Increasing the length increases the bandwidth, radiation resistance and efficiency (since less power is burned up in coil resistance and ground losses). If the antenna can be made 2, 3 or 4 feet long all the better, but the coil should be kept at the top and aluminium tubing should be used for the bottom section.

The matching method is simple. The antenna is made sufficiently inductive for the magnitude (real part) of the base impedance to be 50 ohms. The inductive reactance is then cancelled out using the series capacitor. (Note: Most of the 50 ohms will be coil and ground losses.—Ed.)

As a rough guide to the performance to be expected when operated against a car body ground plane, a loss of 3 to 5 dB on 14 MHz 5 to 10 dB on 7 MHz, 10 to 20 dB on 3.5 MHz and less than 3 dB on 21 and 28 MHz, is observed when compared with a substantially full size vertical on the same ground plane. If the coil is wound with copper tubing (turns held in place by means of a small polystyrene strip, outside coil), a significant improvement in efficiency can be obtained on the lower frequency bands.

It is possible to be a little more scientific in the design of this antenna:

If the antenna height h is small compared with the wavelength λ , the radiation resistance R can be calculated from



$$R = 1600 \left(\frac{h}{\lambda} \right)^2$$

Notice that for a 1 metre vertical on a wavelength of 40 metres,

$$R = 1600 (1/40)^2 = 1 \text{ ohm!}$$

and if 100 watts were fed into the antenna, a current

$$I = \sqrt{\frac{P}{R}} = \sqrt{\frac{100}{1}} = 10 \text{ amps}$$

would flow in the inductor. This assumes no loss resistance in the coil but does give some indication of the maximum current to be expected, and reinforces the necessity for a good ground connection and a low loss coil.

We can also calculate fairly exactly the values of inductance and capacitance needed for resonance on each desired band, but since it takes only a second or two to re-position the alligator clip, there isn't too much in favour of the (complicated!) mathematics!

(Reproduced from "Ground Wave", journal of the Darwin Amateur Radio Club, April 1978.)



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- * Equipped with RF VOX and manual override.
- * Frequency bandwidth 144 — 148 MHz at — 0.5 dB.
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PRICE AMATEUR NETT: \$265.00

MML 432/100 100 Watt 432MHz Linear Power Amplifier

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- * Fully protected against poor load VSWR, overheating and excessive or reverse rail.

- * Equipped with RF VOX and manual override.
- * Frequency Bandwidth 435 MHz — 15 MHz @ — 1dB.
- * 10 watts nominal input for 100 watts output.

PRICE
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UTILIZING an IF of 144MHz * 10 WATTS DRIVE of 1/2 WATT * VOX OPERATED, TWO SELECTABLE RANGES 432 - 434/434 - 436 MHz. FEATURES EXTENDED COVERAGE FOR OSCAR 8

FEATURES: High quality double-sided glass fibre printed board * Highly stable zener controlled oscillator stages * PIN diode aerial changeover relay with less than 0.2 dB through loss * extremely low noise receiver converter, typical 3 dB * Separate receiver converter output gives independent receiver facility * Built-in Automatic RF VOX with override facility * Built-in 10 watt 144 MHz termination, selectable attenuator for 1/2 watt * Use of the latest state of the art Power Amplifier transistors provide reliable 10 watts continuous output.

MODEL MMT 432/144 'S' Price Amateur Nett: \$295



Transverter Model MMT 432/28'S'

FEATURES EXTENDED COVERAGE FOR OSCAR 8

Second Crystal Oscillator gives two ranges: Low 432 — 434 MHz — High 434 — 436 MHz programming available to either Transmit/receive both Low, both High, or a mixture of the two. Adjustable Drive Level is now provided by an input potentiometer. Optional RF VOX. Power Output 10 watts minimum * 28 MHz IF * Drive 1 mW to 500 mW * Aerial Changeover by PIN diode switch * Modern Microstrip Techniques * Power requirements 12 volt nominal at 150 mA 2.5 amp peak * Case size 187 x 120 x 53 cm * Spare 432 input socket.

MODEL MMT 432/28 'S' Price Amateur Nett: \$245 MODEL MMT 144/28 Price Amateur Nett: \$185

NEW READY-TO-OPERATE MODULES AVAILABLE IN THE SALES PROGRAM OF VHF COMMUNICATIONS.

All modules are enclosed in black cast-aluminium cases of 13cm by 6cm by 13cm and are fitted with BNC connectors. Input and output impedance is 50 ohms. Completely professional technology, manufacture, and alignment. Extremely suitable for operation via satellite or for normal VHF/UHF communications.

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6 METRE MOSFET CONVERTER: Featuring 24 MHz local oscillator output for transverter use. Input frequency 52-54 MHz. I.F. Output frequency 28-30 MHz. Typical gain 30 dB. Noise figure 2.5 dB. Typical image rejection 65 dB. Crystal Oscillator frequency 24 MHz. Power requirements 12 volt ± 25% at 35 mA. MODEL MMCS2/28LO PRICE AMATEUR NETT: \$49.00

2 METRE MOSFET CONVERTER: Noise figure typ. 2.8 dB. Overall gain typ. 30 dB. IF: 28-30 MHz. 9-15 V 20 mA. PRICE AMATEUR NETT: \$45.00

DUAL RANGE 432 — 434 MHz & 434 — 436 MHz Converter. Type MMC 432/28 'S' & MMC 432/144 'S' Input frequency ranges 432-434 MHz (low), 434-436 MHz (high). I.F. output frequency 28-30 MHz or 144/146 MHz. Typical gain 30 dB. Noise figure 3 dB maximum. D.C. Power requirements 11-13.8 volts, 12.5V nominal. Current consumption 50 mA maximum. PRICE AMATEUR NETT: \$67.00

1296 MHz CONVERTER: Microstrip line, Schottky diode mixer. IF: 28 - 30 MHz or 144-146 MHz. Noise figure: typ. 8.5 dB. Overall gain 25dB. Power requirements: 12 volts DC ± 25% at 50 mA. PRICE AMATEUR NETT: \$65.00

VARIABLE TRIPLEXER 432/1296. Max. input at 432 MHz. 24 W (FM,CW) — 12 W (AM) Max. output at 1296 MHz. 14 W. PRICE AMATEUR NETT: \$74.00

500 MHz COUNTER 6 DIGIT LED DISPLAY. Two ranges 0.45-50MHz, sensitivity. Better 50mV. 50-500 MHz, sensitivity better 200mV. Features low angle AT cut quartz crystal, typical temperature stability of 0.5ppm per degree C. Power requirements 11-15 Volts DC at 300 mA approx.

BNC CONNECTORS — Excellent quality, fully imported from U.K. U.S. Mil. No. UG88E/U. PRICE AMATEUR NETT: \$1.35 each, CONVERTERS

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BI-BAND ANTENNA

This antenna uses the impedance properties of $\frac{1}{4}$ wave stub lines to present an approximate 300 ohm load to a 300 ohm feedline on two harmonically related bands.

On the lower frequency band the full length of the antenna acts as a half wave

dipole with a "T" match section to the 300 ohm line.

On the higher frequency band the centre section of the antenna acts as a folded dipole which presents 300 ohms to the feedline. The end sections, being each $\frac{1}{4}$ wavelength long do not introduce un-

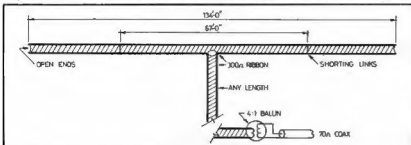
(Reprinted from "Forward Bias", Feb., '78)

Ron May VK1PM

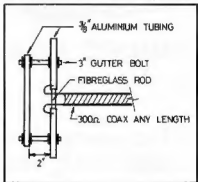
74 Brerston Street, Gairran 2505

wanted reactance, but are effectively disconnected from the folded dipole section because of impedance mismatch.

A standard 4:1 balun transformer as shown for example in the "ARRL Antenna Book" at page 103, can be used to feed a 70 ohm coaxial line or connector.



ABOVE — FIGURE 1: 80m and 40m Dipole.



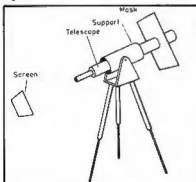
RIGHT — FIGURE 2

WATCHING SUNSPOTS

G. P. Anderson G2QY

It is apparent from discussion on the air that amateurs are very often unaware of the ease with which spots may be observed on the face of the sun, so providing an added interest to Amateur Radio activities.

But first of all a warning that cannot be repeated too often: never, repeat never, attempt to look at the sun directly through a telescope or field glasses. This rule applies even if a smoked glass or other optical filter is used, as such a device can easily slip and expose the eye to the concentrated full power of the sun, resulting in damage and possibly destruction of the sight.



ABOVE — FIG. 1: General Arrangement

Having said that, the method to be described is perfectly safe, and calls for little equipment. The principle item is a telescope, which can be quite a simple terrestrial model; in the writer's case it is of unknown specification and is at least 100 years old, having been used by his grandfather during service as a ship's engineer in the Far East in the 1860s.

The telescope is set up on a convenient stand, constructed so that the telescope may be moved both vertically and horizontally in order to line it up on the sun (an old camera tripod with a simple mount made to fit to the top is convenient). It is also beneficial to fit a simple mask around the barrel of the telescope—a piece of cardboard about 12 in. square is suitable, in order to minimise the direct sunlight falling on the screen.

Having set up the telescope on its stand (obviously choosing a day when the sun is clearly visible!) point the end with the larger lens—the Objective—at the sun, and holding a piece of white card or plastic near to the eye-piece, move the telescope until an image of the sun appears on the "screen"; with the telescope so aligned move the card away from it until the desired size of image is achieved. During this procedure it will be necessary to adjust the telescope in order to focus a sharp image on the screen.

If any sunspots of reasonable size are present they should be readily seen, and their position can be marked on the card;

it will be found advantageous to prepare a circle of suitable size, say 2 in. diameter, on the card before making the observation, so that the locations of the spot may be marked with reasonable accuracy. It is important to keep the card upright—that is, the sides vertical to the ground, so that later observations may be compared, and the progress of spots across the face of the sun followed. When weather conditions permit, daily inspection of the sun is worthwhile, and co-ordination with observations on radio conditions, particularly at the higher frequencies of 21 and 28 MHz will show interesting results.

A note about the screen may be useful. Good quality clean white card or paper is satisfactory, but some experiments with white plastic may be worthwhile, to find a better reflecting surface; the lid of a plastic margarine box has proved very suitable.

One further point: although obviously a true picture of what is happening on the face of the sun is required, and consequently the screen should be set up perpendicular to the axis of the telescope, it has been found to be helpful to move the screen away from this position while inspecting the image, as shown in Fig. 2, especially when projecting on to a plastic surface. The resulting image is of course distorted, but spots stand out much more clearly, as they are enlarged by the distortion.

Reproduced from "The Shortwave Magazine", Vol. XXXVI.



RIGHT: FIG. 2

AMATEUR RADIO WEEKEND — SPRINGWOOD NSW

The remainder of this year will see two special weekends being set aside for a whole array of radio studies, experiments, and get-togethers for newcomers, students and licensees. The WIA Education Service, incorporating the Youth Radio Service, would like to invite all amateurs, their families and friends as well as all newcomers to the hobby, and everyone studying for their licence to come along to one or all of the following weekends, where crash study classes for the novice and full licence exams will be held as well as on-air and other demonstrations.



PHOTO No. 1

The amateur radio weekends will be held at the Blue Gum Lodge at Springwood, NSW, from 8 p.m. Friday till 2 p.m. Sunday on the weekends of the 27th to 29th July and the 2nd to 4th November, 1978. These weekends correspond to P. and T. exams, which are held a month later, hence are ideal for those needing a brush up for novice and full exams. An additional weekend in the Wagga area is currently being discussed.

Here are some of the highlights of the last weekend which was held at Katoomba, NSW

160 TO 2 METRE AMATEUR STATION (Photo 1)

Various on-air activities were available, including world-wide exchanges. Here you see newcomers being introduced to the art of relaying the WIA news broadcast from 2 metres FM up to the 160 metres AM frequency.

From right to left we have Bruce VK2YIU controlling the 2 metre patch, Steve VK2VFB making technical adjustments on 160 metres under the supervision of Peter VK2PV. John, who is studying for his novice (up from Bathurst), looks on.



PHOTO No. 2

CONSTRUCTING ELECTRONIC PROJECTS (Photo 2)

Steve VK2VFB shows some of the newcomers how to construct some of the simple projects available at these weekends. These weekends have given Steve valuable experience towards his plans to start up a radio club at his school in Sydney

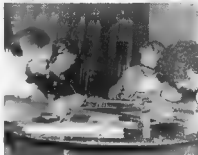


PHOTO No. 3

ROUND TABLE STUDY (Photo 3)

Here is one of the small group study sessions where theory discussion or Morse code practice can be undertaken. Going around the circle, from left to right, we have Sel VK2NOK (one of the weekend organisers), Chris VK2ZPB, Hal VK2NSF and Ken VK2NWK (another of the weekend organisers).

All food and accommodation is provided during these weekends. To book your place write to Box 52, Asquith 2078, or phone Ken on 638 1687; Sel on 827 3589, or Les on 47 3044.

VK2BVS.

A LETTER OF PROTEST

To Dear Mr. P and T,
Please excuse my typing since my hands shake badly due to a Parkinsons disease affliction.

My reason for writing is to protest the speed increase of amateur RTTY. You see, I am an old CW (A1 to you) operator but no longer able to operate due to the shakes.

The Senior Citizens' League recommended that I take up a hobby to occupy my mind. Dancing was out of the question unless the beat was in sync with my shakes. (I found a record once that sync'd in on a sub-harmonic but the physical exertion put me in bed for ten days.)

Other hobbies have ended up the same way in disaster.

However, in my efforts to discover a hobby, I found that I could copy 60 w.p.m. RTTY in my head and it was in perfect sync with my shakes. The up-shift and down-shift were quite exhausting until I converted the jumping off my chair and re-sitting to a nod of the head. It works beautifully and I have spent many pleasant hours reading the news (60 w.p.m. press) and listening to the Ham band.

I have checked with my Doctor to see if there is a drug available that could increase the speed of my sync. Some of the drugs have possibilities but they are not

legal and that is another story. To date I have only been able to sync in on 60 w.p.m. stations.

I implore you to maintain at least a few 60 w.p.m. stations for old-timers like me. Sure, you can call it progress, but the automobile didn't entirely replace the horse — I can still see a few of them around.

Yours faithfully,

A. S. Shaker.

P.S.: Developed a reper system by installing punches on my teeth. But the added weight caused my uppers to keep falling out and the tape almost choked me so I had to give that away.

From AARTG, No. 12.

REPEATERS ACCESS IN THE SOUTH

Gareth Davey VK2ANF

29 Wynna Road, West Pymble 2073.

Early in December 1978, my wife Rosemary VK2NID and I spent an enjoyable week holidaying in Tasmania. We drove from Sydney to Melbourne, flew across to Launceston, and then rented a car as part of a fly/drive package holiday.

Not wanting to lose touch with the world of Amateur Radio, we took portable 2 metre FM equipment with us because of its convenience and widespread use. This information elaborates on the notes made during the trip which should be of interest to amateurs holidaying or travelling in the same areas.

VK3RNE MT. BIG BEN — Channel 8 (48)

Hume Highway:

Accessible from north of Holbrook (NSW) through to Euroa (Vic.).

VK3RGL MT. ANAKIE — Channel 8 (48)

Hume Highway:

Copiable up to about 60 km out of Melbourne

VK7RAA MT. BARROW — Channel 8 (48)

Tasman Highway:

From Launceston, excellent coverage until about 10 km west of Scottsdale; then on a intermittent access (e.g. near Derby and Weldborough Pass).

Good signals from St. Mary's south to the top of Elephants Pass.

Bass Highway:

From Launceston, good coverage to Deloraine (where we turned south on to the Lake Highway)

Lake Highway:

From Deloraine, patchy coverage south. Accessible from the Scenic Point just north of Breona and at most places along the Great Lake, which were somewhat elevated (i.e. not near water level)

Good access at the Marlborough Highway intersection (where we turned south-west).

Hobart City

From the Mt. Wellington lookout, VK7RAA was easily workable by 1 watt hand-held transceiver (we found VK7RHT being keyed simultaneously due to its physical proximity).

Quite a few base stations in Hobart were able to work into VK7RAA with little difficulty



Simple mobile operation (good for rented cars), power from cigarette lighter, rig "squashed" under centre armrest.

VK7RHT MT. WELLINGTON —

Channel 2 (42)

Lake Highway:

Accessible from the Scenic Point just north of Breona by 1 watt hand-held transceiver. Intermittent access south to the Marlborough Highway intersection. (Scratchy but workable signals were heard from a mobile with a similar set-up to ours from just north of Bothwell.)

Marlborough Highway:

Very intermittent access.

Tarralesah Highway:

Intermittent access from Bronte to Tarralesah. Good coverage from Tarralesah to Ouse.

Lyell Highway:

From Hobart, good coverage to Ouse (where we turned on to the Tarralesah Highway).

Huon Highway:

From Hobart, good coverage to Glenelg. South of Strathblaine, only very intermittent access was possible.

Historic Richmond:

From Hobart, good coverage. Workable by 1 watt hand-held transceiver in Richmond



Simple Antenna Installation. Magnetic CB base converted to 2 Mx quarter wave. BNC socket on base for quick disconnect

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KYOKUTO FM-2016A 800 channel 2 meter FM transceiver with 4-channel memory & scanner	\$360
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Arie Bles (VK2AVA) Proprietor

Roy Lopez (VK2BRL) Manager



"AA" creek on the Hume Highway.

Hobart City:

Workable by 1 watt hand-held transceiver with rubber-duck antenna inside the car

Arthur Highway

From Sorell, good coverage up to the approaches to Eaglehawk Neck, then intermittent access into Eaglehawk Neck. Good coverage around Eaglehawk Bay, but only intermittent access further south and to the coast

Poor coverage in and around Port Arthur

Tasman Highway:

From Hobart, excellent coverage to

about 5 km west of Buckland, where the road curves into the mountainside. Signals were reasonable from Buckland to Triabunna. North of Triabunna, VK7RHT could only occasionally be heard weakly (e.g. at Mayfield and Bicheno)

NOTES

— From information received, no 2m FM simplex channels are monitored in VK7, all stations listening to repeater channels instead. Simplex activity is apparently by appointment and pre-arranged on a repeater channel



"MM" creek, also on the Hume Highway.

— While driving through the mountains on the Tasman Highway near Scottsdale, we heard weak signals which we thought were VK7RAA but instead turned out to be VK3RGL

— The following repeaters were not in operation during our holidays and hence no mention has been made of them: VK3RML ch. 2, VK3RMM ch. 5, VK1RG ch. 7, VK2RAW ch. 5

— It appeared to be common practice in VK3 and VK7 for repeater channels to be called (e.g.) "channel 8" and not "channel 48". I had been warned before leaving Sydney that any reference to "NSW-type repeater channel numbering" in other States would result in severe earbashing from local operators — this was definitely not the case.

CONCLUSION

The four repeaters mentioned in detail all worked well and provided excellent coverage over wide areas. Credit must go to the repeater groups themselves.

It is reassuring when driving in unfamiliar territory to know that access to a repeater is possible should there be any need to call for assistance, whether it be an emergency or just simply for directions.

I hope that other amateurs travelling and using these repeaters will find these notes useful.

THE KULROD STORY

Jim Larsen W7DZL

President, Larsen Electronics, Inc.,
11611 N.E. 50th Ave.,
Vancouver, Washington USA 98665

Many of you may not be familiar with the name Kulrod, which is Larsen's trademark. I think that its origin might be interesting to you.

Kulrod had its beginnings during the early days of Larsen's experimentation with various types of loading coils, antenna rod lengths, etc., in the investigation of the best means of producing a superior gain antenna for the VHF frequency range. This was about 14 years ago. At that time there were a few gain antennas around but there was serious doubt as to whether they made any improvement over a quarter wave antenna. For that matter, there still is.

I do hope, however, that in the material which I will be presenting, to dispel that idea Larsen's was fortunate to have a 100 watt transmitter available for testing their early prototypes, improving both their

loading coils and the antenna rod. Their first loading coils became extremely hot at 100 watts — some of them actually burning up. When this difficulty was finally eliminated, they noted that at the 100 watt power level the 17-7 stainless steel rod which they were using became extremely hot at the point of maximum RF current (approximately 18 inches from the top). So hot, in fact, that keying the transmitter for approximately one minute developed so much heat that touching the rod at the point of maximum current after the removal of the transmitting power would literally burn you. They reasoned, and it was subsequently proven to be the case, that the power being used to heat the antenna rod was wasted for communication purposes and that if it could be eliminated, a noticeable improvement in antenna performance might be expected. They were aware of the phenomena as "Skin Effect", which describes the condition of radio currents travelling only on the surface or very near the surface of a conductor.

A little research into the literature revealed that the depth of penetration into the surface of a conductor at 150 MHz was in the order of .00025 inches, or two and one half ten thousands of an inch. It is interesting to note, at this point, that the primary function of the antenna rod is simply to support this extremely thin surface area which does all the work. 17-7 PH stainless steel is probably the most common material used for taper ground antenna rods. It has achieved this high usage due to its high strength, resiliency, and relatively high resistance to corrosion. It does, however, have the undesirable characteristic of extremely high electrical resistance. Its resistance is in the range of 20 to 30 times that of copper, which certainly gives it poor marks in the efficient electrical conductor category.

Armed with this information, Larsen's proceeded to have a rod silver plated. To their great joy, when the rod was placed in a good loading coil and subjected to 100

waits of power for a full minute, there was no trace of heat in either the rod or their vastly improved loading coil. To their great joy they also discovered a great improvement in performance as indicated by an approximate 1 to 1.5 dB improvement in field strength when an unplated rod was replaced by a plated rod. The demonstrable improvement of their early antennas over those which were then currently available, allowed them to penetrate what was and is an extremely competitive market.

If you're afraid I'm not going to tell you how the word Kulrod originated, just be patient for a few more minutes. For the first five or six years of Larsen's existence they silver-plated their rods to get the high performance, which they realised had become a necessity. The silver, unfortunately, had a bad tendency to corrode and produce rust spots when used in certain parts of the world; the worst areas were the tropics and those areas in North America where a great amount of salt is used on the streets and roads during winter time.

During this period, they continued to search for a coating material which would provide them with the required electrical efficiency and at the same time be resistant to the corrosion problem. It consists of a sandwich of nickel, copper, nickel, and chrome, applied over the basic rod material in that order. The first coating is known as a nickel flash and provides a base for the copper. A thick layer of copper is then applied; the copper coating is in a way the most important because it contributes to the low resistance characteristic which they need. A coating of nickel is then placed over the copper, a very thin calibrated coating, I might add. Then finally a coating of chrome over the nickel to provide a cosmetic effect. It is extremely important that the last two layers be quite thin, otherwise, the surface resistance of the rod might significantly increase, and they would wind up right where they started.

Prior to the development of this system, they spent a great deal of effort in advertising their silver-plated rods and then found it necessary to make a change.

Larsen's advertising department conceived the name Kulrod, which with its unique spelling was bound to attract attention and at the same time signify the fact that if you have a Kulrod antenna you do in fact have one which will provide you with a cool cool rod. From time to time they receive complaints that their present rods will turn green when exposed to winter road salting conditions. This condition in no way interferes with the electrical performance of the antenna and may be alleviated to a considerable degree by cleaning the salt encrustation off the rod from time to time and by also, at the beginning of the salt season, applying a good auto body wax to the rod. The green colouring is caused by the penetration of the outer plating layers by salt and its

consequent reaction with the copper layer which produces a green coloured salt, probably copper chloride, which appears on the surface.

They could also improve this situation by making the nickel and chrome plating thicker, but this, unfortunately, has the undesirable by-product of increasing the surface resistance of the rod and bringing them right back to the point where they started. Larsen's is still working on the problem and hopes one of these days to have the perfect answer.

Their method of making field strength comparisons might be of interest, in that it is a system which anyone might use with a minimum of equipment to compare various antennas. The particular area which they had available for conducting tests was poor from a classical standpoint, in that when they investigated its use, they found that it was subject to considerable multipath even when illuminated from a standard signal generator using a corner reflector approximately 500 feet away. They reasoned that perhaps this might be a blessing, inasmuch as the situation more closely approximated actual working conditions. Larsen's procedure follows a standard quarter wave antenna. In their early experiments, a Motorola TU-316 quarter wave antenna was installed on a movable ground plane and then moved through a course covering approximately 100 feet. The antenna transmission line was connected to a calibrated receiver and field strength reading taken at 50 intervals throughout the 100 ft. course.

This procedure was repeated for each antenna to be compared. An average was taken of the 50 readings for each antenna and the result used to obtain comparative gain figures. They were pleased to discover that their results have correlated quite well with those obtained by the most elaborate systems. The key, of course, lies in taking a tremendous number of readings and obtaining an average; in this way, obvious slight errors are averaged out. One simple way this system might be used to obtain comparisons in a vehicle would be to connect a remote meter or test set to obtain a first limiter reading under unsaturated signal conditions. Obtain a signal from a repeater or some other source and, while driving down the road on a fixed course, count aloud slowly to 40; at each count an assistant will read the value of the meter reading and jot it down. The readings may either be averaged or simply totalled and the results compared to other antennas which have been tested in exactly the same way. The results may be invalidated in some cases if the signal source is subject to intermittent fading conditions due to transmission path conditions.

While we are on the subject, let's talk a bit about antenna gain. There seems to be a tendency among some antenna manufacturers to thump their chests and proclaim that "we have the best antenna in the world", and in order to amplify on

this situation they feel obliged to publish gain figures that will confirm it. For example, in a recent issue of Ham Radio magazine there were two different manufacturers proclaiming 3 and 3.8 dB gain for their antennas. Based on the generally accepted criteria of comparing the gain to the quarter wave antenna, which is replaced by the gain antenna, it is difficult assuming a decent quarter wave antenna for either of the units to provide more than a measured 1.5 to 1.75 dB gain. They have never been sure whether some of these claims are due to deliberate misrepresentation or whether they stem from a different concept and philosophy of gain measurement. One of the advertisers did state, however, in extremely fine print, that the gain was compared to an isotropic antenna; the presentation was done in such a way that it would be difficult not to come to the conclusion that they were deliberately trying to confuse the reader.

What is an isotropic antenna? You may have seen many references to it in antenna advertising. Well, an isotropic antenna is essentially a point source from which radiation is equal in all directions. This, of course, does not correspond to a dipole or $\frac{1}{4}$ antenna on a ground plane, whose radiation in general may be visualised by placing a doughnut in the electrical centre of the antenna. As a consequence, the effective gain of an isotropic antenna is approximately 2.5 dB less than a $\frac{1}{2}$ wave dipole or a quarter wave ground plane.

In other words, an antenna which has a rating of 3 dB over an isotropic antenna would actually have a gain of only $\frac{1}{2}$ dB over a dipole or a quarter wave antenna on a ground plane. If they were to use an isotropic antenna as the basis of their gain claims, they could quite honestly state that they had a 5.5 dB antenna.

I am sure that all of you know the relationship between dB and power, but it wouldn't hurt to remind you that 3 dB improvement is equivalent to doubling the mobile transmitter power. If you were operating mobile to mobile and placed a 3 dB antenna on each of the mobile units, it would be the equivalent of obtaining a 6 dB system gain or actually increasing the effective power of each mobile unit by 4 times, which is not a bad bargain considering the relatively low cost of a good gain antenna. This is, of course, another reason why it is important for you to obtain an antenna which will give you an honest 3 dB gain in VHF and not one which gives you 3 dB over an isotropic and which would actually, when installed on two mobile units, provide only 1 or 1.5 dB actual system gain, certainly not your money's worth. Another gain antenna application would involve the installation of a gain antenna on the quarter deck instead of a $\frac{1}{4}$ installation on the roof top, in which case the gain of the gain antenna will very nearly equal that of the quarter wave on the roof and with a considerably simpler installation. ■

STOP

Before you invest in new amateur communications equipment or accessories, spare 60 seconds to read this advice.

"Any salesman will find a way to give you a better price but for every dollar you save that way, you spend twice as much to find the after sales service you need. Before you buy, ask another Ham where he gets good sales assistance and concerned service attention."

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NOVICE NOTES

WHAT'S YOUR REASON FOR GOING ON AIR

Rad Communication is what you make it. There is the DX specialist, the ragchewer, the technician and the "average operator" who is probably a combination of all four.

The DX specialist never works local stations unless it is to find out some snippet of information about a rare contact who may be on frequency at a later date. His prime interest is in working as many countries as possible with a view to obtaining awards, etc. You will probably only hear him when he is working "a rare one" at other times he is constantly listening and tuning up and down the band.

The ragchewer will be found in local nets, interstate groups, or talking to his mate over in Denmark or somewhere. Don't expect him to go clear in a hurry if you would like to work the station he is speaking to... he won't. There are many ragchewers on the bands, particularly on 80 and 40. They are less common on ten metres as this is a DX band when it is open, although there are often nets in progress at times of low band activity.

If you are the "ragchew" type you do not assume because the band is quiet there is nobody listening... there are probably many others doing the same thing and a CQ local call could find you propped on the one frequency for the rest of the evening.

15 metres is certainly a DX band and few nets operate in the Novice portion when the band is wide open, however you will frequently find local QSOs in progress after midnight, when the band has quietened down with stations comparing notes and information. Remember others can't call you if they do not know you are there.

You will rarely hear the technician ninety per cent of the time he is in his shack constructing something and if he comes on the air at all it is usually on two metres. Many technical minded operators do of course operate on the high frequencies but their conversations are naturally orientated toward matters in which they are interested. Be wary of joining their groups unless you can contribute to the technical matters under discussion, and then only if you are sure you are competent to do so.

That leaves the "average operator". He has usually worked quite a lot of DX stations particularly during the period after just receiving his licence. Having gained the satisfaction in knowing he can "get out" he will work DX if it is there or ragchew if there is someone to talk to. He is not particularly worried whether he talks about radio, the weather or raising chickens and he rarely bothers to QSL

within Australia... but don't expect to find him on every night. He might be building something, playing cards with the XYL, or have gone out to the drive-in. He comes on the air when he is in the mood, and you take him as you find him. He may be a full call or a novice, and you will find him on any band. He is doing his own thing... as it is up to you to decide what your "own thing" will be. That is what amateur radio is all about.

AMATEUR RADIO OPERATION

... WHAT YOU CAN'T GET AWAY WITH

Don't brag about the countries you've worked... the word will get around without you saying it.

Don't get involved in technical discussions unless you are sure of your facts.

Don't discuss religion or politics.

Don't make snide remarks or stir... what is acceptable in this country is not acceptable in others. Not all people think the way Australians do and their method and type of humour is completely different.

Never say anything about any operator that you have not already told him to his face, and even then be very careful.

Never say anything about an operator that you do not want to get back to him... you can bet it will.

Remember... the shack is the place for disagreements... not the airwaves.

Of prime importance to remember is that the main source of trouble comes from interference by your station to your neighbours or other amateurs. It is your responsibility to correct, and not ignore it if it is present.

Always be prepared to accept criticism or advice gracefully and to give criticism or advice tactfully.

Always check if the frequency is clear before transmitting.

Avoid transmitting too close to the edge of the bands allocated to you, about 3 kHz should be adequate.

Never purposefully transmit out of your band.

Conduct yourself with dignity on air... your reputation AND THE REPUTATIONS OF THOSE WITH WHOM YOU ASSOCIATE DEPENDS ON YOU. Remember many others may be listening to you.

Remain calm even when provoked by rudeness or thoughtlessness. Example "Sorry Old Man... this frequency is in use... please QSY."

(From CQDX Radio Handbook.)

Trevor Reid VK3NNK, Box 79, Heidelberg Vic. 3084



CHEAP TOWER DESIGN

Here is an idea for a cheap tower. This method gave me 25 feet of fully rotatable tower for less than \$2.

The basic requirement is to have on one side of the house a flat wall going up to



PHOTO 1

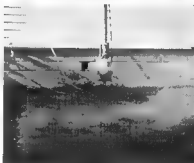


PHOTO 2

a peaked roof (see photo 1). The tower is then basically a 20 foot length of water-pipe, or suitable equivalent, held against the side of the house in a bracket that allows the pipe to rotate. Dropping the waterpipe over a metal spike driven into the ground stopped any lateral movement of the tower at the base whilst allowing an Armstrong Rotator to be used.

The tower in my case was secured at the end of operations by bolting another 3 foot section of steel to the pipe and poking it through a ventilation hole in the brickwork of the house. By more luck than design the left beam pointing towards Europe and across most of Sydney.

The bracket is basically a short length of tube larger in diameter than the water-pipe. Mine was a rather good fit with about 1/2 in. between pipe and bracket. Later when finances allow a rotator can easily be added by placing it at the base of the tower in this position it will not be subject to any great lateral forces (see photo 2).

The only materials that had to be purchased were the bolts that held the bracket to the house. These had to be long enough to pass not only through the fascia board on the house but also through the main supporting beams in the roof. This ensured the entire structure was fairly solid.

An extra 4 feet of height was gained by ramming a short length of 1 1/4 in. water-pipe down the original 1 3/4 in. pipe. It is important not to get greedy at this point. The length above the last support acts like a large lever when the wind blows and tries

to bend the tower at that point. After a few tests I was only brave enough to have a total of 6 feet above the roof to support my 3 element yagi for 28 Mhz.

The antenna/tower combination worked very well except when beaming north towards Japan, when it pointed along the ridge of the roof but that might have been a blessing in disguise

Stephen Garner VK2AXM ■

★ ☆ ★

HOW I BECAME AN AMATEUR

As a boy at Technial College in the 1940s I learnt to build crystal sets and how to use them. This was the start of a lifelong interest in Radio. Money was very scarce in my home so when school finished, work was the important thing. Radio was pushed into the background, but not forgotten. Marriage and the raising of a family meant radio remained in the background, but then CB radio came along.

My 20-year-old son arrived home one evening with a CB and we went to the highest vantage point possible to try out its tricks. Thirty years of smouldering interest in radio was awakened again and I found the advances in radio technology 'out of this world'. More importantly the realm of ham radio type communication was now within the bounds of my financial possibilities.

After a short term on CB radio I realised its shortcomings and was looking for something better and more reliable. By accident I overheard a discussion in the local electronics supply shop on a new course for novice radio amateurs at the Devonport Technical College. I enrolled, thinking to myself that even at 46 I wasn't too old to learn, or was I?

During that course 12 months ago I doubted my own ability to absorb Ohm's Law, oscillators, SSB, radio wave propagation and all the rest of it but my teacher was full of optimism. Like a nervous schoolboy I went along for the November examination last year full of fear and trepidation. Morse code was my weakness and the exam was in three parts. Firstly regulations which wasn't too difficult, then theory which gave me a glimmer of hope to pass. During waiting time in the corridor with other candidates I felt confident of passing the first two parts, but then came the morse code section.

One by one we filed into the room to send our sample of morse in a given key or one of your own choice. After some initial practice I set off and made one number mistake and was overtime by two seconds. Still the biggest hurdle was to come when I was called back into the room shortly after and sat at a long table with a set of earphones. The time had arrived for me to receive a message in morse code.

I set off after a brief practice session and, concentrating hard, almost finished the assignment before I stumbled on a letter and missed the next couple or so. Believing I had blown the whole examination I carried on and eventually my written message appeared like a Chinese conglomeration. My confidence shattered, I accepted an application form from the examiners for the next exam and drove away sure I would have to return for the next course.

A fortnight later my wife telephoned me at work to say my results had arrived and I had passed all three sections. I asked her to read it to me over the phone, not twice, but three times before I could believe her. A lifelong dream had just come true, the best Christmas present I could ever wish for. I just had to ring my course teacher and tell him. His reply was simply: "I knew you would pass, you know." Obviously he held more faith in my ability than I did.

The necessary papers were filled in and despatched to authorities and back came that coveted piece of paper informing me that I was now VK7NLH and duly authorised to indulge in my dream of 35 years or more.

The next step was a rig, the old Kraco CB set was amenable to 10 metre work if I got new crystals, and a letter was sent to a United States supplier.

In the meantime I looked at several good amateur rigs and one or two were borrowed for a practice session on air. Then I made and erected a GSRV dipole on the advice of some friends and the results were quite good. But, like amateurs everywhere else, I wanted better, so up went an elegant 2 element, 2 bander Yagi on a telescopic mast, in went a good tuner and then a TS520S transceiver miraculously appeared in the temporary radio shack of my spare bedroom. It was at this time my wife and family were considering moving

house to leave me with my bits and pieces. The hint was taken and I promptly built a permanent shack in the furthest corner of my large garage. Fitted out with lights, power points, carpet, soft chair, special console to accommodate my gear and a good intercom to the kitchen. (he I couldn't starve, could I!) I grabbed a heater for Tasmania's cold nights and shifted camp.

I am now quite settled in and keen to work for my full call. My wife, along with other amateurs' wives, is amazed at how cheap our gear is.

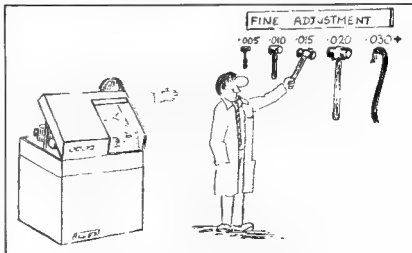
The transceiver was a bit over a hundred bucks, desk makes go for a few dollars as do towers for antennas. The antenna was only \$50 and you know as well as I that the more that goes into that little shack the cheaper it all gets. Joiners, connectors, power supplies, meters. Gosh, they are almost being given away. Ask any amateur, he'll tell you.

Seriously, though I must admit that I have gained a great deal of satisfaction from the knowledge that I worked and studied to the extent that I could obtain a novice licence. And as I mentioned earlier I will keep going for my full call to get the most possible enjoyment from the hobby. It isn't cheap, it isn't dear, it's just what you want to make it. And there are no unnecessary demands as you can pick it up or put it down when you like. It is up to you whether you operate one hour a week or 12 hours a day and the enjoyment and satisfaction is as rewarding either way.

By the way, the crystals ordered from the United States seven months ago have still not arrived and I guess they got lost somewhere. To finish, my wife wishes to know of a divorce action anywhere citing TS520S as a co-respondent.

Cheers and 73s

Don Houston VK7NLH. ■



(Acknowledgement: from AARTG No. 12)

INTRUDER WATCH

Alf Chandler, VK3LC

TRANSMITTING MODES IDENTIFIED

For our readers information the following treatise on the modes of radio transmission are designated

The official "Classification of Typical Emissions" are laid out below, and a brief description given.

Acknowledgement is given ITU Regulations.

A0, A1, A2, A3 and F3 are too well known to need a description of the sounds produced on air, but A4 and F4, facsimile, or the transmission of pictures by radio, which cause considerable hash on our bands are identifiable by the tick, tick, tick as the carriage returns, and either a high pitched (for white) or a low pitched (for black) squelching signal.

A7A, the multi-channel voice frequency telephony, sounds like a buzz saw, the pitch being consistent with the speed of transmission.

F1, frequency shift keying (FSK) in morse or teletype (RTTY), can be identified by the mark and the space on two separate frequencies, separated by 180 to 1,000 Hertz. The mark carries the intelligence and the space in morse is what we used to call the "back wave". Teletype is sometimes hard to identify because it is not always sent at the same speed. The American speed is 45.5 bauds, while the British is 50 bauds. Some multi-channel run at as high as 192 bauds. Here we have a rather confusing issue. What is a baud? The Oxford dictionary gives a complete erroneous definition, so I'll leave it to you! On our bands are often heard teletype blanks, reversals and RYs. Blanks sound like dots on one frequency and dashes on the other. Reversals are a series of fast dots, while RYs sound like the fast rhythmic trilling of one's tongue.

F6 — four frequency duplex telephony is as though two separate F1s are on adjacent frequencies, very often two kilohertz apart.

The P series have come into prominence lately, and are pulses. In the case of the Russian "woodpecker" P0, ten to the second. Recently there has been a faster one (26 to the second), which I believe is a European ionospheric sounder

Further information on all these signals can be ascertained from your Intruder Watch Co-ordinator, and all these signals can be heard and identified by sending me a C60 cassette or reel (30 minute) tape. I can then dub my IW identification tape for your edification and education.

Alf Chandler VK3LC,

Federal Intruder Watch Co-ordinator.

NOTE NEW ADDRESS:

15 Point Avenue, Beaumaris 3193. ■

TABLE OF CLASSIFICATION OF TYPICAL EMISSIONS

Type of Modulation of Main Carrier	Type of Transmission	Supplementary Characteristics	Symbol
Amplitude Modulation	With no modulation	—	A0
	Telegraphy without the use of a modulating audio frequency (by on-off keying)	—	A1
	Telegraphy by the on-off keying of an amplitude-modulating audio frequency or audio frequencies, or by the on-off keying of the modulated emission (special case: an unkeyed emission amplitude modulated)	—	A2
	Telephony	Double sideband	A3
		Single sideband, reduced carrier	A3A
		Single sideband, suppressed carrier	A3J
		Two independent sidebands	A3B
	Facsimile (with modulation of main carrier either directly or by a frequency modulated sub-carrier)	—	A4
		Single sideband, reduced carrier	A4A
Frequency (or Phase) Modulation	Television	Vestigial sideband	A5C
	Multichannel voice-frequency telephony	Single sideband, reduced carrier	A7A
		Two independent sidebands	A8B
	Cases not covered by the above, e.g. a combination of telephony and telegraphy		
	Telegraphy by frequency shift keying without the use of a modulating audio frequency: one of two frequencies being emitted at any instant	—	F1
	Telegraphy by the on-off keying of a frequency modulating audio frequency or by the on-off keying of a frequency modulated emission (special case: an unkeyed emission, frequency modulated)	—	F2
	Telephony	—	F3
	Facsimile by direct frequency modulation of the carrier	—	F4
	Television	—	F5
Pulse Modulation	Four-frequency duplex telegraphy	—	F6
	Cases not covered by the above, in which the main carrier is frequency modulated	—	F9
	A pulsed carrier without any modulation intended to carry information (e.g. radar)	—	P0
	Telegraphy by the on-off keying of a pulsed carrier without the use of a modulating audio frequency	—	P1D
	Telegraphy by the on-off keying of a modulating audio frequency or audio frequencies, or by the on-off keying of a modulated pulsed carrier (special case: an unkeyed modulated pulsed carrier)	Audio frequency or audio frequencies modulating the amplitude of the pulses	P2D

Pulse Modulation Telephony

Audio frequency or audio frequencies modulating the width (or duration) of the pulses P2E

Audio frequency or audio frequencies modulating the phase (or position) of the pulses P2F

Amplitude modulated pulses P3D

Width (or duration) modulated pulses P3E

Phase (or position) modulated pulses P3F

Code modulated pulses (after sampling and quantization) P3G

Cases not covered by the above in which the main carrier is pulse modulated P8

AMATEUR SATELLITES

Bob Arnold VK3ZBB

AMSAT AND ARRL

I am pleased to advise renewed contact with ARRL through Bernie Glassmeyer W9KDR, and I hope to have some up-to-date leaflets, etc., in the not too distant future — I will let you know the situation when further letters have crossed the Pacific.

Also, the first AMSAT newsletter for a year has turned up with airmail postage of 87c. Obviously AMSAT cannot afford to keep this cost up continuously, so we shall have to find a formula to assist. This is a problem for Life Members as the cost of sending a draft for a few dollars for additional airmail charges is about \$2.50. Any ideas? Please don't suggest that I should collect the money! (It might get diverted to the ZBB benevolent fund.)

CORRESPONDENCE

I have been delighted to have rather voluminous correspondence recently with Peter VK4FJ, who is a relative newcomer to satellite, as he is on AO8 Mode A and has made several good contacts — not too good with me!

Peter is trying hard to increase satellite interest in VK4 and is currently supplying a segment each week for the VK4WIA broadcast. He also participates in the JAMSAT Net which, due to QRM, is sometimes rather difficult to copy, not only in VK4 but VK3 as well.

Peter has been in correspondence with John VK4TL, who has sent lots of interesting information. John is one of the morning pass operators and has concen-

trated on AO7 Mode B. Results are envious for we poor mortals in the south (John at Calms is about 2,000 miles north of VK7), as he reports working some 332 QSOs with JA, plus numerous others in ZL, JA, JR6, FK8, VS6, P29, KC8, HL9, DU6, KH6, KG6 and Kure Island. At least we have a few of these plus VK0 and ZK1. Thanks, Peter and John, your information will fit in well in future notes.

OPERATIONS

The two Russian Amateur Satellites RS 1 and RS.2 now appear to be permanently out of service. The breakdown is reliably

attributed to excessive radiation during launch; a most disappointing end to a great effort by our Russian colleagues. At least a few of us managed QSOs via RS 1 and 2 and we are looking for QSL cards — perhaps they will become as rare as a "penny black" in due course.

Oscar 7 still operates but there is little activity via the most general mode in use — "B". Reports indicate that complete failure is anticipated in September but maybe it will have yet another new lease of life.

Oscar 8 still performs well. Colin 9M2CR reports that stations in Asia hear VKs in the middle of the band, whereas in accordance with the official band plan they are at the higher end. I guess that operators in VK and ZL have not required resort to band planning on the Oscars due to limited activity in this part of the world. Maybe we should fall in line with convention — more on this next month.

PUBLICATIONS

I have been fortunate to have had an opportunity to review a new publication by ARRL entitled 'Satellite Communications', which is edited by Bernie Glassmeyer W9KDR. This book, which is mainly made up of re-prints of articles published in QST during 1978 and 1979, is primarily devoted to Oscar 8 and particularly to Mode "J" operation.

Chapters include basic AO8 information, telemetry, antennae, filters, comprehensive mathematical and computer calculations for the location of satellites and information on the Russian series.

Words of wisdom appear throughout the book such as 'Antennas cut for 432 MHz can be used for Oscar 8, Mode J, but very few exhibit any gain at 435', and 'some so-called low-loss types of coax are

ORBIT PREDICTIONS — AUGUST, 1979

OSCAR 7					OSCAR 8					RUSSIAN RS				
Orbit No.	Expr. GMT	Expr. +W	Orbit No.	Expr. GMT	Expr. +W	Orbit No.	Expr. GMT	Expr. +W	Orbit No.	Expr. GMT	Expr. +W	Orbit No.	Expr. GMT	Expr. +W
1	21540	0135	88	7161	0138	71	2335	0017	303					
2	21552	0034	73	7174	0000	46	3347	0022	306					
3	21565	0128	87	7188	0005	48	3358	0027	309					
4	21577	0028	71	7202	0018	48	3371	0031	311					
5	21590	0122	85	7216	0016	50	3383	0036	314					
6	21602	0116	83	7230	0021	51	3395	0041	317					
7	21615	0110	83	7244	0028	53	3407	0046	320					
8	21627	0015	68	7258	0031	54	3419	0050	322					
9	21640	0109	82	7272	0036	56	3431	0055	326					
10	21652	0009	87	7286	0041	57	3443	0100	328					
11	21665	0103	80	7300	0046	58	3455	0104	331					
12	21677	0002	85	7314	0052	59	3467	0109	333					
13	21690	0056	69	7328	0057	61	3479	0114	336					
14	21703	0151	82	7342	0102	62	3491	0118	338					
15	21715	0050	77	7356	0107	63	3503	0123	341					
16	21728	0144	91	7370	0112	65	3515	0128	344					
18	21740	0044	75	7384	0118	66	3527	0133	347					
18	21753	0138	89	7398	0123	67	3539	0137	350					
19	21765	0037	74	7412	0128	68	3551	0142	353					
20	21778	0132	87	7426	0133	70	3563	0147	355					
21	21790	0031	72	7440	0138	71	3575	0151	358					
22	21803	0125	86	7453	0000	48	3587	0156	360					
23	21815	0025	70	7467	0005	48	3598	0201	363					
24	21828	0119	84	7481	0010	49	3610	0205	386					
25	21840	0018	69	7495	0016	50	3622	0210	358					
26	21853	0112	83	7508	0021	52	3634	0215	341					
27	21865	0012	66	7522	0026	53	3646	0219	344					
28	21878	0106	81	7537	0031	54	3658	0224	349					
29	21890	0005	66	7551	0036	56	3670	0229	349					
30	21903	0100	80	7565	0041	57	3682	0233	352					
31	21916	0154	84	7579	0047	58	3694	0238	353					

virtually unusable for Mode J. RG 8/U is acceptable only if used for relatively short runs, and anything smaller should not be used at all!"

There is a simple design for a 435 MHz QUAGI, which with the "4 x 3 x 5 MHz Filter", should enable interested operators to overcome some of the receiver desensitizing problems which are peculiar to this Mode.

Your copy of "Satellite Communications" can be obtained from ARRL, 225 Main Street, Newington, CT 06111, USA, for \$5.50 (US funds), post free. I suggest you add another dollar if you require airmail delivery.

Magpups at WIA Federal Office and your

Divisional Office will also probably carry stocks of this excellent book in due course.

THE FUTURE

Now is the time to get your gear in good order for the launch of Phase III in March next year. As John VK4TL says, "We shall be faced with greater distances in future which require higher power for transmitting and efficient antennae on both up and down frequencies. John is building a linear with parallel 4CX 250s to run near the legal limit of 400W PEP.

I have previously mentioned the Canadian geostationary satellite. No further information is to hand on this pro-

ject but details of a new British proposal have become available and I will give details in a future issue. Known as UOSAT, this bird is expected to have SSTV facilities and a 10 GHz beacon — pass the news to the ATV fanatics.

SATELLITE NET

Several operators have mentioned their interest in forming an Australian Net to discuss matters relating to satellites on a regular basis. If you have an interest contact Peter VK4PJ on the air or write to him at 16 Bede Street, Balmoral, Queensland 4171, and give him some ideas of time and frequency you would prefer to be used. Perhaps our ZL friends will also contribute to this suggestion.

OPENING OF RADIO STATION VK2BQK

The Hon. A. Staley, Minister for Post and Telecommunications, officially opened the Radio Bay and Station at the Museum of Applied Arts and Sciences on Friday, March 23rd, at 10.30 a.m.

The newly completed Radio Bay is equipped with an Amateur Radio Station VK2BQK, generously donated by Dick Smith, of Dick Smith Electronics. The equipment is the latest in amateur radio, and is operated by novice and amateur licence holders from the Wireless Institute of Australia, who voluntarily man the station on weekends. The Radio Station has successfully transmitted to all parts of Australia, including the Science Museum in Victoria, New Zealand Japan and the USA.

Graphic material, photographs and historical radio and communication equipment are a so on display.

For further information please contact Margaret Batteridge, Public Relations



Officer, or Jeff Sergel, Curator of Electronics, on 2113911.

AROUND THE TRADE

1296 MHz LOOP YAGI

Spectrum International have available a Loop Yagi which gives 20 dBi gain. It is an updated version of G3JVL's design.

Spectrum International also have available .HF filters for 432 MHz and 1296 MHz.

For further details contact: Spectrum International, PO Box 1084 Concord, Massachusetts 01742, USA.

MCKAY DYMEK RECEIVER

As recently appointed Australian Agents Vicom International takes pride in announcing McKay Dymek a range of high quality HF synthesised and HF scanning receivers. From this range the Model DR22C is introduced as a general purpose receiver. Because the receiver tunes continuously from 50 kHz to 29.99 MHz the receiver is equally at home whether being used as a radio station monitoring receiver or by a serious SWL.

Design will allow the unit to be ther statelad in the standard 19 in rack or sit contently in a living room. Modes of reception are SSB AM CW, RTTY. Excellent stability make the unit a dream to use.



SPECIFICATIONS: DR22C

1. Frequency coverage 50 kHz to 29.7 MHz continuous Reception modes AM Upper Sideband Lower Sideband CW, RTTY (with external converter). Sensitivity 10 dB (S + N)/Hz 4 kHz SSB (CW), 0.75 uV typical Frequency resolution 5 Digit Red 5 color 12 cm LED to 5 MHz
2. Frequency selection 10, 1, .005 MHz steps — 5 kHz Fine Tune
3. Frequency stability Dig to lat synthesised phase locked loop + 40 Hz over 8 hours
4. Image reject on 70 dB
5. RF blocking 100 dB to 1 uV
6. Cross modulation 80 dB to 1 uV
7. Intermodulation 65 dB to 1 uV

QSP LASERS

Ever thought about gear and operation on 10 GHz (10,000 MHz)? Recent experiments with a 4 mW helium-neon laser operating at 6328A produced a successful one-way QSP over a 35 km path. This is only some 4 million GHz.

Beware the fate of Harry Steed,
— was warned, but wouldn't heed,
That Murphy does his nasty best,
Just before a big contest
He's out, a spoiling bent
Sabotaging some event —
Or messing up the beam, or gear.
So have a thought and a fear
Touch naught that has no need —
Lest you wind up like Harry Steed,
Who spent his week-end on repair
But never did get back on air

Alan Shaws Smith VK4SS Written 1-2-79



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SPECIFICATIONS

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Impedance 50 to 75Ω
Measurable Output Power 2-500W
Connectors, input/output Type M (UHF)
Two-tone oscillator
Frequencies 1300 and 1900Hz (approx)
Output voltage 50mVrms, max
Power supply 115/230V, 50/60Hz, 12VA approx
Size and Weight 180(H) x 125(W) x 300(D)mm 4.7kg

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★ Impedance 50 - 75 ohms ★ Size and Weight 40(H)x50(W)x90(D)mm 1.10 g

Frequency Range	1.8 - 54MHz
Impedance	50Ω
Forward and Reverse Power	Three ranges each: 20, 200, 1000W full scale accuracy ±10% f.s. to 40MHz, and ±15% f.s. to 54MHz.
SWR indication	1.0-10, direct reading
SWR Power Requirement	Less than 10W
Connectors	Type M (UHF) (Input-output)
Size and Weight	150(H) x 112(W) x 125(D)mm, 1.2kg approx

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Brisbane 38 4480
Wellington (N.Z.) 28 7946

AMATEUR EQUIPMENT

BELCOM HC-1400	2M FM Mobile Transceiver
BELCOM LS 707	All Mode 430 MHz Transceiver
BELCOM R 707PS	Power Supply and Speaker
YAESU FT7	Mobile Transceiver
YAESU FT227R	2M FM Transceiver
YAESU FT101E	Transceiver
* YAESU YO101E	Monitor Scope
* YAESU SP101B	Speaker
* YAESU YC601B	Digital Display for FT101E
YAESU FT301E	Transceiver
YAESU FT301D	Transceiver
YAESU FT301D	Power Supply
YAESU FT901DM	Transceiver with Memory
YAESU FV901DM	Scanning VFO
* YAESU YO901	Monitor Scope
* YAESU FC901	Antenna Tuner
* YAESU SP901	External Speaker
* YAESU FRG7	Receiver
YAESU YP150	Dummy Load
YAESU YC500S	Frequency Counter
YAESU QTR24	World Clock
KURANISHI RW1001L	SWR and Watt Meter
KURANISHI 6580B	800 MHz Frequency Counter
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LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher

35 Wynnot Street,
West End, Brisbane,
Queensland 4101
23-5-79

The Editor

Dear Sir,
Geoff Wilson VK3AMK and Neil Penfold VK6NE have posed some pertinent questions re our VK/ZL contest. May I comment on them.

Should we have a contest—or contests? Most definitely, yes. Only a minority of Hams participate in contests and on about one quarter of these submit logs—even so, they fill a definite psychological need. Healthy assertion makes (and some say) need a friendly push of some sort, even so often. Proof of the a to be found in many "get together" activities. Most clubs or groups run competitions of some kind, even the senior citizens have their bowls, cards or whatever.

In the case of AR contests, contesting sharpens the wit, acts as an incentive to improve the rig and operating habits and provides the opportunity to test oneself alongside all-comers, a very important requirement if one is to develop confidence and to know oneself. On a more mundane level, it assists in working the rare DX and obtaining awards. AR is an entity made up of several minority groups, and AR, in its contests, serve would lose a lot of its character.

Should the contest duration be 24 or 48 hours? Most arguments support 24 hours. We are not in the "Big League" as countries or continents go, and the prefix VK is a rather commonplace. It is quite enough to ask overseas contesters to work VK for 24 hours. More logs will be submitted than if the time span was doubled. A full weekend means starting Friday for some countries and one and one contains B&O, the others may or may not, but it is significant to note that none of these has so much as a word of warning labelled on it. I find this type of situation deplorable, especially when one considers that other products on the market, far less toxic than B&O, have warning labels on them.

I hope that you will be able to pass this information on to your readers so that they will be aware of the dangers in handling beryllium oxide. I would suggest that any project you publish which makes use of this substance in any form also contain a suitable warning.

to have merit, as it would save a lot of writer's cramps and entice more log entries. However, it might also increase cheating. As only one in four contest participants submits a log, cheating, by those who know how, is always possible (I won't explain how). However, an eagle-eyed scrutineer can pick a padded contest log—and it's this possibility that keeps cheating to a minimum. So because of this log submission, in my view, is mandatory

Alan Shawcross VK4SS.

The Editor,
Dear Sir,

"POISON"

I wish to draw your attention to an article that appeared in the radio amateur journal QST July 1978, which warns of the extremely toxic nature of the substance beryllium oxide.

As well as those applications mentioned in the article, beryllium oxide is to be found in commonly used RF power transistors (e.g. 2H5890, 2H6054, B40-12, etc.). Some mounting kits for transistors also use beryllium oxide washers for improved conductivity. I am certain that there are many persons handling such items who are quite unaware of the dangers involved. Unfortunately, the use of beryllium oxide (B&O) seems to be widespread.

Recently I came across an item in the 1979 Dick Smith catalogue. This warned that one of their products, Heat Transfer Compound, happened to contain B&O. If this is in fact so, and if other brands of heat sink compound also contain B&O, it would appear that a very real hazard exists to any persons involved with the maintenance or construction of electronic equipment. As you are no doubt aware, heat sink compounds being in the form of a grease, is a rather messy substance to use, and even if care is taken it is difficult to keep from coming into physical contact with it. This could result in traces of it being taken internally, with possible disastrous consequences.

Up till now, I have seen four different brands of heat sink compound available on the market, and one contains B&O, the others may or may not, but it is significant to note that none of these has so much as a word of warning labelled on it. I find this type of situation deplorable, especially when one considers that other products on the market, far less toxic than B&O, have warning labels on them.

I hope that you will be able to pass this information on to your readers so that they will be aware of the dangers in handling beryllium oxide. I would suggest that any project you publish which makes use of this substance in any form also contain a suitable warning.

Yours faithfully,

E. J. Smeds VK3YNN

Copies of this letter have been sent to the editors of the following magazines: Electronics Australia, Electronics Today, Amateur Radio and Amateur Radio Action.

PO Box 22,
Woodend 3442

The Editor,
Dear Sir,

I wonder whether somebody could suggest a solution for a problem with my FDX 401 transceiver vintage 1974.

The S-meter zero drifts, after some period of operation, up to 50 even with extreme adjustment of the setting resistor VR10. I have installed new 684E (V205) and 682E (V1) valves to no effect. All resistances in the S-meter circuitry (R224, R3, VR2, R56 and VR10) remain stable until this happens. Plate and screen voltages of V1 and V205 remain stable at 150 and 105 volts respectively. The cathode voltages, however, drop from 115 to 5 (V1) and from 85 to 63 (V205). It should be noted that even the "cold" voltages are lower than the 1.5 to 13 volts quoted in the manual.

Can anyone suggest the cause and, therefore, the cure for this condition?

Yours sincerely,

G. H. Cranby VK3GI.

The Editor,

Dear Sir,

Concerning Silent Key F G Ball

To everyone who kindly expressed sympathy in our recent bereavement please accept our sincere thanks.

Mrs. Gladys Ball (wife of Fred Ball) and Jm (brother of Fred Ball).

6 Wchman Road
Arladale, WA 6156
May 23rd, 1979

The Editor,

Dear Sir,

RE SLOW MORSE TRANSMISSIONS

WA members and listeners would be extremely grateful if the eastern book of amateur transmitting stations would be good enough to keep clear of the frequency of 3555 MHz Sunday to Friday on y, around 1200Z to 1300Z. This is the prime operating time for VK6 station SM transman saun and reception. Please do not forget that although EA, SM sessions have finished at least an hour before OUR SM sessions are just starting Winter propagation conditions from the eastern States are causing considerable jamming, particularly to our outer country areas. Other outside interference from northern states has a and unwelcome cargo ships approaching Fremantle Harbour is unbearable at times. Will all concerned please help in the interest of the WIA to make WA operations a lot more fruitful, pleasant, and a little less arduous? MNY TNX 73.

Yours in the interest of Ham Radio,

Cyril Rulledd VK3CR

Slow Morse Co-Ordinator for WA

The Editor

Dear Sir,

Our Historical Officer, Mr. Bill Tanner VK7TE is endeavouring to compile a history sheet of all Tasmanian (VK7) Radio Amateurs past and present. He would like a photo of each, co. or. If possible a short autobiography covering his activities as a hobbyist, work, etc. in particular, details of all awards, certificates held and any other details considered relevant.

Details of other Radio Amateurs in or ex VK7 would be appreciated, especially on those who have passed away (Silent Keys).

As an example of the fascinating history in Tasmania we are trying to compile and preserve, as some would remember the playing of records on the broadcast bands in the early days the Radio Amateurs Col Wright VK7-Z and the late Les Crooks VK7SD.

If you can help, please drop us a line and, if practical, we will call on you to record the details or collect information and articles.

Yours faithfully,

M Lockett VK7NSB,

Secretary, Northern Branch WIA.

PO Box 275

Launceston 7250

PO Box 822
Hamilton 3300
May 8 1979

The Editor

Dear Sir,

Let's set the record straight on a couple of matters raised by AR contributing editors in May issue 1979.

Bill Verrall is attempting to can the WAWCA (VHF) Award just because he thinks it is impossible to qualify for it.

I suppose by the same reasoning we should can DXCC just because 40 or 50 countries are inactive?

Personally, if selected for ANARE 1979-80 I will be taking 5 metres to Macquarie and I not then under VK7 will go the same.

The WAWCA Award never had a counterpart for VHF until 1973-75 produced the necessary VKO and 9 contacts on 6 metres, which in turn formed the WIA Awards Committee now acknowledging the achievement of a minority of operators who worked all the areas.

Following the proof of contacts there was a lapse of two years before the certificates were forth.

Finally—the GCR and Summary Sheet. At first glance, the GCR rule and summary sheet seem

coming so all in all, the award was very hard to come by and has a high degree of prestige for those fortunate to hold it.

We are always having rammed home to us about the first 'this' or 'that' and the first 'that'. Well, this is one 'first' that won't be taken away in a hurry, not without a fight.

Every VHFer should be allowed to have the opportunity to qualify for the award. Making it easier, just because it is hard is not sufficient ground for revising the rules. Remember, it is impossible to have just that little bit longer. Do you really think someone stuck for want of a VKO would appreciate the Federal Awards Manager meddling in the rules just to allow "all in"? He admits himself that he could also qualify for want of a VKO.

As far as getting VKO on HF, how long did it take for you to get your QSL card back, Bill? And how often is VKO on the air? I can tell you that it is at least three times per week for over one hour per session. Those who haven't worked him are not looking in the right place.

And this brings me to point two.

A comment in Eric Jameson's column hits out at VK3ZNG's sock of QSLing and gives credit to VK5KK as the first VK-VK3 QSO.

Kate to tell you but VK3ZCG in Lindenow was the first station in Australia to work VK3ZNG and it was into Martin's long wire antenna.

Shortly after hearing the contest and being asked to raise ZCG, I went to Balmain and purchased a 3 element yagi which I personally donated to VK3ZNG. The next set of QSOs some week or two later were those which VK5KK may have participated in.

As for QSLs at least four VK3s, including myself, hold Martin's dark red card in our possessions, ready to be sent by direct QSL to Box 409, Norfolk Island 2899.

As far as QSLs from VK3, I was, up to recently, holding VK3N's cards and have processed over 100 VHF cards for 5 metre QSOs. Anyone who has missed out has not been reading the QSL info, so ready available over the past three years. I recently sent out 75 cards by various routes for H3TG's 5 metre QSOs. I'm sorry to report that the incoming cards have not been sent at the same speed as those sent out. Gary is looking to gain the VWA VHF Award and I decided to help him in this quest.

My final comment is that lately there has been one-up-manship and oblique mud-slinging from VK5 area in matters of 5 metre operation. I believe that any contest should be based upon credible news and facts which interests everyone not just a persons soap-box for one or two one-eyed members of a 'clique' who feel that the world above 50 MHz belongs to them alone!

I could of course put this in my column, but that would be abusing the privilege of writing for the VHF populace of Australia, instead Mr Editor I use your forum, thus giving anyone the right of redress instead of hiding behind page final deadlines and on delays between comment and reaction.

Yours faithfully

Steve Gregory VK3QOT
Editor, VHF News
Amateur Radio Action.

141 Hyde Street,
North Rockhampton 4701, Qld.
18th April, 1979

The Editor,

Dear Sir,
A couple of days ago two VK3 stations informed me I had again won the Ross Hull Contest by many hundreds of points in both the seven day and 48 hour sections. As I had not then received my copy of AR for April, I was awaiting its arrival. It came today and what a let down for a winner of the most difficult contest held annually in Australia not even being placed at the top of the list for the winner and only a few lines devoted to those who spent many hours over the three weeks of the contest trying to make contacts. Other and older contests have had heat electrical storms, poor propagation and sometimes many hours of listening without even a single signal on

the VHF bands as an award. In the tropics, there are many days and nights where operation at all is impossible at the time of the year the RH Contest is held, due to the severe electrical storms prevalent, and one is unable to operate.

Many dozens of stations operated and took part in the contest but the reason for the poor response of logs submitted has been pointed out before in AR by several correspondents. That is the continuity of numbering of QSOs, whereby all are aware of how many contacts have been made by any particular station, and if that number is well ahead, then it is considered a waste of time to send in a log. Many participants have informed me of this, year after year.

As the member's Division is entitled to hold the trophy, I would like to know if this will be sent to Queensland, and trust that remedial measures will be taken with the rules before the next Ross Hull Contest.

Harold L. Hobler VK4DO

Editor's Note: Yes, the trophy has been sent to VK6 Division — (VK3UV).

10 David Street East,
Springwood 2777,
4th May, 1979.

The Editor,

Dear Sir,

I draw attention to the following extract from "THE RISE AND FALL OF THE LUFTWAFFE" by David Irving (page 214), which, I suggest, adds weight to whatever claims the Amateur Radio movement may have for consideration by the Government.

"Goering and Milch both accepted that the German electronics industry had fallen far behind that of the enemy. A basic reason was that while Britain and America had actively encouraged amateur radio enthusiasts, in Germany the amateurs had been systematically persecuted by the Reich authorities . . ."

A footnote on the same page states—

"In March 1943 Goering stated, 'The main blame belongs to Onnesco (Minister of Posts)' — he never wanted to relax his grip on anything. We smashed up the amateur radio ham clubs and wiped them out. . . And now we need them. . ."

Yours faithfully,

R. C. Black VK2YA.

INTERNATIONAL NEWS

WARC 79

On special assignment, WA6IDN, IARU Assistant Secretary Bruce Johnson, is traveling in Africa for WARC preparation, meeting amateurs and talking with Government officials of many countries. His travels are being written up in QST and make interesting reading for anyone wanting to know what is being done for the amateurs and the amateur service in the less developed countries. He attended the CCIR Seminar in Nairobi during February, the Region 2 counterpart of the Sydney CCIR Seminar in early April for Region 3. He took with him for demonstrations an IARU Project Goodwill receiver kit similar to the sample recently sent in Australia.

Here is a direct quote from the editorial in QST February 1979, commenting on the USA latest QST proposals for WARC 79—

"The last major disappointment is that the Commission appears to have ignored the comments it solicited on its original proposal to make no changes to Article 41. It has proposed removing the 'requirement' of Morse code proficiency, replacing it with a 'recommendation' that operators must be harmless enough to some. Unfortunately, amateur stations often lose control of such proposals after they are made at international conferences, subsequent discussion may so change the proposal that the original intent is subverted. For that reason, amateur societies throughout the world have urged their administrations to propose no change in Article 41. Canada earlier made a similar proposal which was withdrawn, now the US has fallen into the same trap."

PROJECT ASERT

COMMITTEE PROGRESS NOTES — 17 MAY 1979

R. C. ARNOLD VK3ZBB

Although on formal meeting of the Project ASERT Committee has been held there has been considerable liaison between members of the Committee on matters of detail which continue to arise. It was also opportune for me to have a discussion with Col VK3KH during his attendance at the Federal Convention.

1. Chart records for March and April have been received from Col VK3KH and Brian VK7ZBV. Where appropriate these were sent to Ken in the USA, but since his move to Asia they have been directed to his Sydney office and will await his return.
2. A brief note from Ken when he was at the University of Utah indicates that he is well, enjoying his stay in the USA, and has received the correspondence forwarded earlier. Ken has agreed that John VK2ZKU at Broken Hill, should monitor Japan on 50 MHz, and that Selwyn ZL2B-O, in Palmerston North should monitor Japan on 50 MHz and Sydney on 44 MHz.
3. An offer of co-operation has been received from the WIA Central Queensland Branch in Rockhampton, and we shall have to decide which, if any, paths they should monitor.
4. A new location has been found for the VK3 station; this will be on premises at Port Melbourne under the supervision of Alan VK3AA. Alan is also anxious to monitor a 432 beacon but this will probably have to be deferred until the beacons regularly audible in Melbourne have improved frequency stability. Would Brian take this matter up with VK7 Beacon Committee.
5. The most vital matter which a retarding the development of further receiving stations is the provision of recorders. An advertisement appeared in the May edition of AR seeking recorders from members or others, to date am not aware of any responses. However, a few new recorders have been ordered from the USA on three months delivery. This a significant purchase has been approved via Federal Executive.
6. Due to business and leave commitments there has been a lull in dealing with correspondence, this should improve in the near future.



Les VK3BKF and Bruce VK3ZMR check chart recordings for "Project Asert".



Les VK3BKF makes adjustment to 2 Mx Antenna.

Photos. VK3ZPA

1979 FEDERAL CONVENTION

This Convention, held in Melbourne over the weekend of 28th-30th April, was attended by the Federal Council and a Territorial Federal Council from each Division and all members of the Executive Committee of various Federal Committees and Coordinators were also present, as shown in last month's WIANEWS, which provided an initial report on the proceedings.

In his opening address the Federal President said he was pleased to welcome the first Novice operator to attend a Convention as a delegate — Fred Parker VK2NFF the VK2 President. In his response Tim Mills VK2ZTM expressed thanks to the Federal President for the enormous amount of time expended on WARC 79 matters and said prior organisation this time was the best ever by amateurs and especially the WIA for such a Conference.

In discussions arising from annual reports the Federal President said he had attended 13 full day, 4 half day and 33 days overseas on Australian WARC 79 and other work during the year. Delegates were brought up to date on IARU and WARC 79 affairs. The IARU XII receiver developed for use mainly in "third world" countries was produced and examined under Interwarch Watch matters. It was hoped that WARC 79 might produce some useful results concerning "the woodpecker", but any policy to attempt combating pollution with pollution in the case was a negative approach. It was noted that little had been done to date on local intruders and pirates. Mr Michael Owen VK3JL was nominated as an additional amateur service delegate. The WARC 79 Australian delegation as it was absolutely clear that one delegate alone would not be able to attend all meetings where amateur radio matters came up and in the event of sickness during this long Conference there would be no AR representation.

The acquisition of historical material, including a very early radio film during the year was reported. The existing videocassettes produced by John Ingham VK5KG were viewed. Some time was taken up discussing Federal Contests and Awards, and it was hoped members reactions to AR publicity on these would provide guidelines for proposed changes; more participation in contests, especially the Ross Hull and VK/ZL contests, was required. Increased liaison and publicity by the Federal RTTY Committee appeared desirable.

EDUCATION

Under Agenda items not covered in May AR WIANEWS it was decided to incorporate the Dick Smith \$3,500 donation into an Educate on Resources Development Fund.

It was resolved that the Institute makes further approaches to the Department for more frequent (more bi-monthly intervals) and theory/regulation (theory) exams and also that additional exams be conducted outside normal working hours where the need exists. The Federal Education Coordinator was asked to inaugurate the production of a set of educational/promotional videotape masters.

WICEN

WICEN as a trade name is to be researched. The persistence of a policy was adopted to negotiate with the Department for State emergency authorities to authorise WICEN exercises. A review of the present major search application forms is to be carried out before the next reprint.

CHANNEL NUMBERING

Channel numbering for the 2m and 70 cm FM sections of the bands were debated in a working party and on report back to the Convention it was resolved that a four digit number based on frequency (repeaters to be identified by output channel) be adopted.

Agenda items on matters which are policies from previous Conventions were withdrawn. It was resolved to request the IARU RI beacon project to reserve 28.200, 28.265 and 28.270 MHz for VK beacons. Work is proceeding in the VHFAC on higher frequency band plans (e.g. 29 cm, etc.).

Proposals to create machinery for affiliation to the Federal body by Australia-wide groups/clubs by regulation were referred back to Executive for further review. Much the same occurred in relation to discussion on various proposals to update the Federal Constitution. In discussions about publicity material it was agreed a need existed for state of the art distribution/promotional leaflets. A discussion was held about the "temporarily lost" 11m band. An item to introduce an annual membership card/certificate lapel.

It was resolved to initiate with IARU the feasibility (even long term) of seeking the introduction of an international amateur licence/certificate similar in principle to the International Driver's Licence.

Pressure is to be maintained on the Department for higher speed Morse endorsements so as to qualify amateurs for overseas licences whose Morse speeds higher than our 10 w.p.m. are a requirement. A motion to request higher power for Novices failed. Comment was made that there was lack of sufficient background and other data. Pressure is to be applied for customs duty by-law on amateur transceivers and equipment for use on frequency bands above 2m.

REVENUE

Under general business items, a number were withdrawn at the time of debate, including one proposing that representations be made to increase the ADOP Morse exam speed to 12 w.p.m. A motion proposing higher TX powers be sought for AOCIP and ADOLP operators was not supported. The 1980 Convention was set down for Melbourne on 25th-27th April.

The audited statement of Income and Expenditure for the year ended 31st December, 1978, and the audited Balance Sheet as at the same date, together with the auditor's notes forming part of the accounts are reproduced hereunder for general information, together with a copy of the Federal President's annual report.

STATEMENT OF INCOME AND EXPENDITURE

FOR YEAR ENDED 31st DECEMBER, 1978

	1978	1977
Income:		
Members' Subscriptions	\$81,936	\$82,641
Interest Received	5,074	2,687
Surplus — Log Books	—	53
Call Books	—	3,038
Magazines	8,428	4,230
	95,438	72,659
Expenditure:		
Amateur Radio (Note 1)	33,445	20,455
Audit Fees	488	492
Bank Charges	585	658
Convention Expenses	2,492	2,438
Catering and Entertainment	122	251
Committee Expenses	524	95
Depreciation	340	600
EDP Expenses	4,734	2,090
Electricity and Power	370	267
General Expenses	842	843
Insurances	540	495
Membership Recruiting	2,568	1,249
Postage and Freight	3,392	2,025
Provision for Amateur Satellites and Special Projects	3,000	1,000
Rent and Rates	2,230	2,137
Repairs and Maintenance	167	464
Superannuation	1,000	1,000
Stationery and Printing	4,545	1,778
Salaries and Secretarial	26,448	21,645
Telephone	884	808
Travelling Expenses	128	1,010
	\$88,615	\$62,002

Net Surplus	6,821	10,857
Accumulated Funds Brought Forward	26,279	14,795
Add Transfer from Reserve Fund	—	627
Accumulated Funds Carried Forward	\$33,100	\$26,279

BALANCE SHEET AS AT 31st DECEMBER, 1978

	1978	1977
Members' Funds:		
Accumulated Funds	\$33,100	\$26,279
Special Funds — ITU (Note 2)	3,052	8,521
WARC (Note 3)	10,894	9,804
WARC (Public Donations)	781	—
IARU (Note 4)	390	4,683
RWAA (Note 5)	1,153	1,100
	\$49,380	\$51,167

Represented by

Current Assets:		
Commonwealth Bank — General Account	\$41,280	—
Commonwealth Savings Investment Account	28,223	23,885
Australian Savings Bonds	23,100	23,100
Austral an Development Bank	2,200	2,200
Sundry Debtors — Less Provision for Doubtful Debts	14,572	28,384
	(2,000)	(2,000)
	4,278	6,254
Stock on Hand — at Cost	108,631	78,503

Non-Current Assets:		
Furniture and Fittings — at Cost		
Less Provision for Depreciation (340)	—	—
	1,955	1,897
	110,586	80,300

Deduct:

Current Liabilities:		
Commonwealth Bank — General Account	—	5,182
Sundry Creditors	2,468	4,286
Subscriptions in Advance	42,437	11,325
Provision for Superannuation on Provis on for Amateur Satellites and Special Projects	4,852	3,424
	4,349	1,813
Service Leave	3,500	2,763
Deposit VK4	300	300
Dick Smith Education Donation	3,500	—
	81,206	29,133
	\$49,380	\$61,167

NOTES TO AND FORMING PART OF THE ACCOUNTS

AMATEUR RADIO (Note 1)	1978	1977
Income:		
Advertising	\$37,756	\$26,890
Subscriptions	1,175	2,274
AR Sales	1,357	1,139
Inserts and Sundries	4,348	1,257
	44,844	30,530
Expenditure:		
Awards	\$90	\$90
Bad Debts	—	280
Honourariums	4,540	3,810
Postage	10,099	6,627
Publishing Printing and Distribution Costs	54,919	36,267
Salaries	7,773	5,666
Travelling Expenses	853	1,025
	78,269	50,265

Excess Expenditure Transferred to General Account Representing Cost of AR to Members

	\$33,445	\$20,455
ITU FUND (Note 2)		
Balance at 1st January, 1978	\$9,521	
Add Interest Received	982	
	10,503	
Less Payments	7,441	
	\$3,062	

WARC FUND (Note 3)		
Balance at 1st January, 1978		
(Laid on Dividends 1977)	\$9,804	
Add Interest Received	717	
Members' Donations	673	
	\$10,894	

IARU FUND (Note 4)		
Balance at 1st January 1978	\$4,863	
Add Members' Contributions	1,338	
	6,001	
Less Payments	5,811	
	\$189	

RON WILKINSON ACHIEVEMENT AWARD (Note 5)		
Balance at 1st January, 1978	\$1,100	
Add Interest	103	
	1,203	
Less Award Payment	80	
	\$1,123	

FUND PAYMENT SUMMARIES		
IARU Fund		
Share IWG	\$1,686	
Dues	804	
Bangkok	2,186	
New Zealand	953	
	\$5,611	

ITU Fund.		
Publishers	\$104	
Share IWG	1,685	
CCIR/SPM Geneva 1	4,582	
Circular Appeal	1,090	
	\$7,441	

WARC FUND		
Share IWG	\$1,686	
Dues	804	
Bangkok	2,186	
New Zealand	953	
	\$5,611	

RON WILKINSON ACHIEVEMENT AWARD		
Share IWG	\$1,686	
Dues	804	
Bangkok	2,186	
New Zealand	953	
	\$5,611	

ITU Fund.		
Publishers	\$104	
Share IWG	1,685	
CCIR/SPM Geneva 1	4,582	
Circular Appeal	1,090	
	\$7,441	

WARC FUND		
Share IWG	\$1,686	
Dues	804	
Bangkok	2,186	
New Zealand	953	
	\$5,611	

RON WILKINSON ACHIEVEMENT AWARD		
Share IWG	\$1,686	
Dues	804	
Bangkok	2,186	
New Zealand	953	
	\$5,611	

AUDITORS' REPORT TO THE MEMBERS OF THE WIRELESS INSTITUTE OF AUSTRALIA

1. In our opinion the attached accounts give a true and fair view of the state of the Institute's affairs as at 31st December 1978, and of its surplus for the year ended on that date.

2. As required by the Companies Act 1961, we report as follows in our opinion:

- The attached accounts are properly drawn up (1) so as to give a true and fair view of the matters required by Section 162 to be dealt with in the accounts and (2) in accordance with provisions of that Act.
- The accounting records and other records, and the registers required by the Act to be kept by the Company have been properly kept in accordance with the provisions of that Act.

HEBARD & GUNNING, Chartered Accountants.
(Sgd.) P W HEBARD
3rd April, 1979. Partner

WIRELESS INSTITUTE OF AUSTRALIA EXECUTIVE — ANNUAL REPORT 1978-79

1 Throughout the year, as in the past, we have tried to keep you informed on Federal WIA matters by means of WIANEWS and the Federal tapes.

2 The Executive for the year 1978-79 was elected as follows:

David Wardlaw VK3ADW, President and Chairman
Peter Wollenden VK3ZPA, Executive Vice-Chairman
and Chairman VHF/UHF Advisory Committee
Keith Rogel VK3YO, Hon. Treasurer and Chairman Finance Sub-Committee

Ken Seddon VK3ACS, Chairman, Federal Reporter Sub-Committee
Graeme Scott VK3ZR, Federal Education Co-ordinator
John Bennett VK3ZA, Nominal Editor

3. During the year, Keith Rogel VK3YO was transferred overseas on business. This left us with a vacancy which we are still having great difficulty in filling, although Mr. Rogel agreed to act for a time as shown below.

4. Keith is one of those dedicated members whose hard work has had much to do with the success of the WIA over many years. It is pleasing to report he has been made an Honorary Life Member of the Victorian Division in recognition of his many years of service.

5. To the date of writing we have not secured a permanent replacement for Keith despite discussions with and appeals to many members.

6. At the present Bill Roper has been co-opted into Keith's place on Executive.

7. Luckily, the Executive office has, with the aid of some outside accounting help, been able to see the year out successfully on the bookkeeping side.

8. Bruce Bathos VK3JY, as Managing Editor of "Amateur Radio" and Chairman of the Publications Committee, has maintained close liaison with the Executive by attending as many meetings as possible.

9. No report on the personnel of the Executive would be complete without mention of our hard-working Secretary/Manager, Peter Dodd VK3CIF, for his loyal and tireless efforts throughout the year.

10. Fourteen (14) meetings of the Executive were held since the 1978 Federal Convention. Attendances were as follows:

Dr. D. Wardlaw	14
Mr. P. Wollenden	13
Mr. K. C. Seddon	10
Mr. G. F. Scott	10
Mr. C. J. Bennett	8
Mr. K. V. Roper	4
Mr. W. E. J. Roper	2
Mr. G. Scott	1

The following also attended	
Mr. B. Bathos	10
Mr. C. Seddon	1
VK3JY	1
VK3JY	1
VK3YI	1
VK3AED	1
VK3ZVG	1
P. B. Dodd	14

GROWTH

12. It is very pleasing to report that there has been a 23 per cent increase in membership during the 1978 financial year. Naturally this increase has an impact on the office and at present a number of aspects of the office are being reviewed. This is being done in conjunction with a review of matters concerning Amateur Radio magazine.

IARU

13. The fourth IARU Region 3 Association Conference was held in Bangkok from 7th to 9th October. Nine Regional Societies were present. The WIA was represented by David Wardlaw VK3ADW and Peter Wollenden VK3ZPA. Michael Owen VK3KI, the overseas Liaison Officer, was also there in his capacity as a Director of the Region 3 Association.

14. Considerable time was devoted to discussions on many aspects of WARC matters, including preparation and representation. A policy not to seek a change in Article 41 of the ITU Radio Regulations was confirmed.

15. Considerable interest was shown in WIA Project Aeset. The WIA, as authorised, pledged an additional \$1,000 to help meet the expenses of the members of the IARU observer team. JAINET and 9V1R1M — at WARC 79, JARI and PAPA also pledged additional funds. Michael Owen VK3KI was re-elected as a Director, David Rankin 9V1R1H was re-appointed Secretary. There is still no position of Chairman of the Region.

16. The next Conference of the Region 3 Association will be held in Manila in 1982.

17. The W.A. donated \$250 through the Reg on 3 Association to the Training Project on Electronics and Amateur Radio held in Colombo. This ARU/DARC Project was also sponsored by the Governments of Sri Lanka and the Federal Republic of Germany.

18. Throughout the year the WARC newsletters from IARU HQ have kept us informed of WARC preparations in many countries.

WARC

19. As Chairman of Committee 2 (Amateur Amateur Satellite) the President of the Institute extensively involved in Australia's preparations for WARC 79. During 1978 there were two main streams of preparation.

20. Firstly, those involved with the Special Preparatory Meeting of the International Radio Consultative Committee (ICR) of the ITU. At the last Federal Convention the offer by the Australian Administration to include an amateur in their delegation to the SPM was accepted. Due to constraints of available time it was proposed that David Wardlaw VK3ADW would be able to stand the first half of the Conference and Michael Owen the second half. This in turn was acceptable to the Administration. The Convention budgeted accordingly.

21. At this stage the draft new question "Preferred Frequency Bands in the Amateur Service before Study Group 8" was adopted. It was suggested that Australia should present a paper on this subject at the SPM. This meant a lot of hard work by a number of members, particularly Jack O'Shaunessy VK3SP and Eddie Russell VK3BSR co-ordinated by Michael Owen VK3KI. When the results are looked at, think the effort was well worthwhile.

22. The report of the CCIR will be used as a technical basis for WARC 79.

23. In Sydney there was an ITU Regional Seminar to discuss the results of the SPM at which the WIA represented the ARU.

24. Secondly, those involved in the preparation of Australia's submissions for the work of the Conference particularly with relation to the frequency Table 5. As WARC approaches, the meetings are becoming more frequent, particularly as other Administrations form proposals are received.

25. Australia has supported the new HF bands for the Amateur Service and also additional bands for the Amateur Satellite Service.

VISIT TO NEW ZEALAND

26. The Federal President, David Wardlaw VK3ADW, and Overseas Liaison Officer, Michael Owen VK3KI, on the invitation of the NZART attended their Annual Conference in June 1978.

27. This allowed some frank discussion on WARC and IARU matters, particularly with respect to the future of IARU after WARC 79. It was obvious that many of our problems are the same as those across the Tasmant. It was also agreed to observe the method of operation of the Conference.

28. The Managing Editor of Amateur Radio, Bruce Bathos, attended the 1978 Tasmanian Amateur Radio Convention on Hobart in November 1978.

29. During the year the Federal President has had the opportunity to meet the Minister for Post and Telecommunications on a number of occasions. One meeting being specifically to discuss TV Channel 5A.

30. Since the last Convention a Joint Committee of personnel from the Central Office of the Radio Frequency Management Division of the P and T Department and members of the Executive of the WIA has been set up. This Committee has met on a number of occasions and covered a wide range of topics. Brief notes of the proceedings of each meeting were circulated to Federal Councilors.

TV CHANNEL 5A

31. The thorny problem of Channel 5A again raised its ugly head during the year. For many years the WIA has been campaigning against this Channel (non-standard international V) which the suggestion was made in the Melbourne Press that 5A could be used for ethnic TV, the President immediately wrote to the Minister for Post and

Telecommunications, the Hon. A. A. Staley, and followed this up with a personal interview. At this meeting the problem of a TV Channel adjacent to an amateur band was explained and some documentation on tests carried out on TV receivers was handed over.

32. At the same time all amateurs were urged to put the case to their Member of Parliament. Follow-up contact was made with the Minister.

33. At the Queens and Division Convention the Federal Minister for Resources, Mr. David Jull, said: 'The decision for Channel 5A to be used in metropolitan areas has been completely shelved and won't happen. Furthermore, an investigation is now under way by the Department to eliminate those areas that are using Channel 5A for translator facilities in some country TV areas'.

34. On 20th September the Minister announced special broadcasting services for the athletic community would be on UHF.

35. A technical submission on the problems of the use of Channel 5A has been presented to the Minister.

36. It is interesting to note that in the Australian proposals for the work of WARC 79 it is proposed to modify Footnote 27BA to read:

'In Australia the band 137 — 144 MHz is also allocated to the Broadcasting Service for Television. UNTIL THAT SERVICE CAN BE ACCOMMODATED WITHIN THE REGIONAL BROADCASTING ALLOCATION'.

EDUCATION

37. An Educational Co-ordinator's Sub-Committee has held two meetings in Melbourne during the year. These were both attended by interstate representatives. Also, the Co-ordinator, Graeme Scott, has been in constant contact with the Examination Section of the Department. A Bank of 600 Novice questions was presented to the Department. The Bank was the combined work of a number of members. But thanks must go to John Ken VK3YK, for the work he did in preparing the cards. The Novice Morse exam seems to be able to generate endless comment with differing opinions from all corners of the Commonwealth.

38. The main subject of concern to the Education Co-ordinator is the ACPG Syllabus particularly with the intention to go to multiple choice type questions to speed up marking. Distinct progress is being made and the Department has been very cooperative.

39. Dick Smith has donated \$3,500, the proceeds of the auction of equipment, to the Federal body of the WA for educational purposes. At the moment no disbursements have been made as the path of most effective use has not been finalised.

HANDBOOK FOR OPERATORS OF RADIO STATIONS IN THE AMATEUR SERVICE

40. At the Joint Meeting with the Department on 22nd August. In answer to a WA question, it was stated that there was no staff available to proceed with any work on the Handbook. No comment was forthcoming on the matter concerning the Handbook amongst other things in our early August 1977 letter, page 20 AR, September 1977. During October we were informed that a person had become available in the Department and that he was drafting a revision of the Handbook.

41. A draft was shown to the Federal President and Secretary two days before the President left for the SFPM in Geneva.

42. There were a number of aspects that it was considered the WA could not agree with. As it was stated that it was hoped to have a final draft in December, we felt that this gave the Institute sufficient time, particularly in view of the statement made at the August meeting with the Department. A letter calling for a three month hold was dispatched immediately. Also urgent comments were called for from the Federal Co-ordinators.

43. The Federal Secretary, in view of the pressure put on the WA, produced comment on the Departmental draft based on existing Institute policies. WA also produced its own draft based on the old Handbook and Departmental draft. However, this was not discussed at the November 22nd meeting with the Department.

TABLE 1 (Previous year in brackets) at 31-12-78

	Total Licences	WIA Licences	% members to total Licences	Other WIA members	Total WIA members
VK1	228 (187)	123 (163)	53	53 (37)	176 (140)
VK2	3633 (2955)	1530 (1199)	42	245 (241)	1773 (1440)
VK3	2947 (2407)	1417 (1200)	48	442 (414)	1859 (1614)
VK4	1334 (1018)	757 (606)	56	239 (150)	966 (756)
VK5/8	1296 (960)	690 (560)	53	255 (213)	955 (773)
VK6	807 (642)	409 (342)	50	111 (94)	520 (436)
VK7	328 (275)	212 (181)	64	75 (67)	287 (228)
Other	19 (20)	—	—	—	—
Totals	10587 (8483)	5138 (4171)	48	1398 (1216)	6530 (5387)

TABLE 2. Total Licences — by Grades

	Full	Limited	Novice	Total
VK1	157	43	29	229
VK2	2006	687	730	3633
VK3	1505	980	455	2941
VK4	639	391	304	1334
VK5/8	687	321	288	1296
VK6	452	207	148	807
VK7	184	56	50	328
Others	—	—	—	19
Totals	5611	2933	2024	10587

TABLE 3. WIA Members by Grades

	F	A	C	T	S	G	L	X	Total
VK1	119	53	2	—	—	—	2	—	176
VK2	1072	188	302	28	48	116	11	5	1773
VK3	968	328	318	41	63	115	15	13	1859
VK4	361	100	329	92	9	47	4	24	966
VK5/8	441	201	184	23	27	52	4	23	955
VK6	302	65	70	35	9	32	4	3	520
VK7	177	61	20	7	6	9	5	2	287
Totals	3440	994	1225	228	162	371	45	73	6530

44. A further draft marked "Not for Publication" was shown to us, some of the aspects that were objected to by the WIA having been removed.

45. At the February Joint Meeting with the Department it was stated that now only minor edits could be done. It was explained that this new edition will obviously need to be revised after the new Act and associated regulations and WARC 79.

46. One worrying aspect is that much of the WIA submissions on the Handbook forwarded to the Department over a number of years appears to have been overlooked or mislaid.

WARC FINANCE

47. As instructed by the Federal Council, a letter was sent to all non-member amateurs soliciting their contributions to WARC funds. The response barely covered the cost involved although we have gained some new members.

48. Contributions were also sought from the commercial advertisers in Amateur Radio with quite a satisfactory result. Also many Radio Clubs are making substantial donations and these are also very greatly appreciated.

PUBLICITY AND RECRUITING

49. We have maintained our advertising in AR and CMA throughout the year at a not insignificant cost. However there seems to be a constant stream of replies to these advertisements. In order to help with displays, a number of sets of coloured posters depicting amateur radio have been prepared. Unfortunately due to their cost they are not disposable.

VIDEOTAPE

50. Due to the importance of Videotape as a visual publicity and educational media, it was decided to appoint John Inglish VK3XG as Federal Videotape Co-ordinator to handle our growing library of videotapes.

STANDARDS ASSOCIATION OF AUSTRALIA COMMITTEE 14/4. SITING OF RADIO COMMUNICATIONS EQUIPMENT

51. The WIA was represented at the Inaugural meeting by Ken Seddon VK2ACQ, who reported the standard is not intended to apply to radio amateurs and the general opinion was it could not be applied to amateurs. The WIA will continue to be represented.

PROJECT ASERT (Amateur Service Experiment in Radio Transmission)

52. Following a proposal by Ken McCracken VK2CAK that amateurs should become involved in a systematic investigation of VHF/UHF propagation modes, the Executive, on the advice of the VHF/UHF Advisory Committee, decided to sponsor the project.

SCIENTIFIC GOALS

53. It is proposed that the Amateur Service should conduct an experiment with the following goals:

- (1) To provide a set of unbiased statistics and a definition of the morphology of VHF/UHF transmissions over the Australian continent and to compare with other points in the Northern Hemisphere.
- (2) To distinguish between the several propagation modes and to relate them to other observable parameters.

AMATEUR RADIO

54. The current high standard a being maintained by the Publications Committee under the able leadership of Bruce Bathols VK3LV. Bruce has indicated his intention of giving up his present position at the end of the year. As a consequence a number of possibilities have been investigated by the Executive. At the forthcoming Convention it is hoped to be able to support the discussions on the various alternatives with as much as possible.

that can be obtained in the way of factual figures. Of course, any discussion on the future of Amateur Radio is very much tied to discussions on the future role of the office.

AMATEUR ADVISORY COMMITTEE SYSTEM

55. At the February Joint Meeting with the Department it was agreed that the aims and objects should be re-stated and that the P and T Department would re-draft the necessary memorandum for mutual discussion.

56. The Federal Repeater Sub-Committee Chairman reports that, although he had all but reached agreement with the Department in November, the Repeater conditions as proposed in the Draft Amateur Operator's Handbook generally appear to have passed the discussions between the Department and the Executive over the past couple of years.

WICEN

57. At the same time as there was a change in the Federal WICEN Co-ordinator, there was also a change in the Director-General of NDO. However, the new Director-General, Rear-Admiral R. C. Swan, has been briefed on WICEN matters by Ron Henderson VK1RN, the new Federal WICEN Co-ordinator.

58. Further DX records on VHF and UHF were recorded during the year.

59. No opportunity has arisen to re-examine the accounting package in our computer programmes.

MAILING SERVICE

60. A disastrous fire at Automail in late July destroyed our stocks of envelopes on hand as well as causing problems with current papers awaiting August AR.

CALL BOOK 1979

61. Work is proceeding on this. Input of non-members data from P and T Department records has been accelerated thanks to great co-operation by the office at involved.

MEMBERSHIP STATISTICS

62. These are compiled on the same basis as for previous years. It should be noted, however, that the Departmental totals means licences issued, whereas the Institute's statistics refer to number of members. With many people now holding both a limited and a novice call there will obviously be more licences than actual people.

63. In conclusion, I would like to thank all those Federal officers and Committee members who have worked so hard for the Institute, and it is heartening to see the growth in membership, particularly as WARC 79 approaches.

DAVID WARLOW Federal President

DIVISIONAL NOTES

VK2

The VK2 Division has approval pending for the operation of Australia's first 10m beacon. While this has been held for some time as operational there have been delays in licensing it. Some years since the concept of 10m beacons in Australia was developed, there is now some lessening of the need with the increasing activity in this band. It is now likely that three 10m beacons will be developed for Australia. The first will be located at VK2UR (Dural) and the others could be in North Queensland and Western Australia. The frequency block will be 28.260, 28.285 and 28.270 MHz.

VK2 Division Council has approved the establishment of 70 and 23 cm beacons at Dural. The equipment will also serve as broadcast programme outlets.

In order to encourage 70 cm development Council has approved the establishment of a second repeater on this band, which will be located at Dural. The first is located at Paddington, which is still to change frequency to the band plan. Both repeaters will use the 5 MHz separation system.

ATV broadcasts will be re-commenced after a couple of years break. Signals will originate from

Paddington on ATV Ch. 2 (442 MHz) and relayed by the Central Coast repeater on ATV Ch. 1 (426 MHz). In the near future it is expected that the Division's ATV repeater, to be located in the eastern Blue Mountains, will be operational for both experimental and broadcast use. Frequency is 50 cm which is ch. 33 on a UHF TV set.

Mt. Bindo channel 1 repeater VK2RDX of St. George ARS was vandalised some time about 8th June.

VK3

On Sunday, 25th February, 12 members of the THUGS Radio Club tackled the job of sorting the Vic. Division's library, which has been stored in tea chests for some five years.

After about 10 hours work library shelves were stacked with books and magazines dating from 1958 to 1978.

On behalf of the Council and members of the WIA Vic. Division, Mike VK3WW, the Divisional Librarian, would like to thank all the willing workers who gave so generously of their time and effort to complete this difficult task.



Mike VK3WW and Ann VK3VDF survey the results of the day's work.

The M suffix call signs having been allocated the new Novice series for Victoria with V suffixes are being issued.

VKS — OFFICE-BEARERS 1979

President, Mr Ross Greenaway VK5DA, Secretary, Mr Peter Savage VK6NCP; Treasurer, Mr. Bruce Jacobs VK6ZAT; Federal Councillor, Mr. Neil Penfold VK6NE; Alternate Federal Councillor, Mr Peter Savage VK6NCP; Assistant Secretary, Mr. Bruce Hadfield Thomas VK6QD, Councillor, Mr. Allyn Maschette VK6ZGA.

Officers appointed VK6RP, Membership; VK6UB, Enquiries; VK6DV, Publications; VK6MK, Contest Manager; VK6NAG, Awards Manager; VK6ZAT, AR Sub-Editor; VK6WT, Intruder Watch; VK6JK and VK6SA, Auditors; VK6LO, Programme Organizer; VK6IF, Broadcast Co-ordinator; VK6RU, QSL Manager; VK6CR, Slow Morse Co-ordinator; VK6QD, Education Officer, assisted by VK6UJ and VK6DA.

Positions of Technical Officer and Social Organizer still vacant.

Our thanks to the retiring officers VK6AN, VK6CU, VK6JY.

Information via Bruce Jacobs VK6ZAT

QSL

EMERGENCY TRAFFIC RE-BROADCASTS

The FCC, according to Ham Radio, April 1979, decided that amateur transmissions of emergency information cannot be re-broadcast by commercial broadcast stations.

RTTY IDENT.

The FCC turned down a petition that stations operating on RTTY be permitted to identify by RTTY instead of CW as now required.—Ham Radio, April 1979.

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THE VHF

An expanding world

Eric Jamieson, VK5LP



to the VHF scene in Europe and nearby areas, and is generally relevant to 6 metre operation, so you may be interested.

"The England Ch. F2 sound frequency is 41.25 MHz and is commonly received over vast distances now with increasing MUF. It's quite common in South Africa and of late has been noted in Australia. There are four main transmitters on Ch. F2 and the ERP of the sound transmitter is quoted: Troyes 62 kW, zero offset; Limoges 59 kW zero; Caen 12.5 kW zero, Bastia (Corsica) 2.5 kW — 20 MHz.

"BBC-1 Ch. B1 has a sound frequency of 41.5 MHz, video 45 MHz. There are 7 higher powered transmitters, video ERP is quoted (being 25 per cent of this figure) and details of the sound offset is given as either zero, + or — Crystal Palace 200 kW zero; Ashridge 18 kW +16.8 kHz, Duns (H) 12 kW zero; Redruth 10 kW — 20 kHz; Transmitter 7 kW zero; Llandudno 5.7 kW — 16.8 kHz; Llandrindod Wells 1.3 kW +16.8 kHz.

"The next main transmitters to note is Ch. E2 video carrier and Ch. E2 sound carrier at 48.25 MHz. Holme Moss 10 kW zero; Fossemarkle 20 kW — 20 kHz; North Hessay Tor 14 kW — 20 kHz. These are video ERP, sound 25 per cent. On the same frequency is RTVE Spain 250 kW, Portugal 40 kW — 6 kHz, BBC-1 Ch. E2 video at 51.75 MHz. Italian Ch. V1 video 53.750 with three transmitters to 35 kW Ch. E2 video 55.55 MHz carries a vast number of transmitters, the most probable one being Canary Islands operated by RTVE in Spain live via Intelsat 46 satellite, running 350 kW. On 53.750 there is a Ch. B in Elve with 80 kW + 6 kHz. Eastern Europe use video carriers on 49.750 MHz.

"China has a sound carrier on 56.250, Asia uses E2 on 48.25 with 20 kW from Rhodesia. Higher E2 on 55.25. French video carrier is on 52.400 MHz. In the Middle East E2 is used by Dubai and Iran. There are no police or similar transmissions in Europe between 30 and 50 MHz. South Africa uses various frequencies around 40 to 43 MHz for mobiles, while the Rhodesian Army uses 45 MHz for communications."

So there is some fresh information to put on your check list for possible areas to hear. With Europe in general not having a 60 MHz allocation you won't be able to do much about working stations there, except perhaps Gibraltar. But good luck, you never know what you might hear. But please, no wildcat reports about unconfirmed hearings now you have these frequencies to go by, video will be virtually impossible to identify, remember, English uses 50 lines, France and Russia 625 lines and Western and Eastern Europe 625 lines. If you hear unidentified sound carriers, put the information on tape for future identifications, together with the date and time and frequency.

THE SIX METRE SCENE

David VK5SKK has stated in the period 24-4 to 22-5 as follows, with later information at the end

"We are now seeing the tail end of the equatorial DX season but still a few surprises in store for those who keep operating 24-4 2300Z onwards. KHMS 5 x 7, KGBJDX to S9 11h 0100Z to VK2, 3, and 5. KHMSQI repeater from 0245Z till 0330Z to VK5 RS2 25-4: JA opening to VK2 and 5, etc., predominantly JAs across both others except 4 and 6. Time 0230 to 0630Z. From 0630Z aural propagation evident in VK3 and 7, but very little to VK2 and 5. All signals from VK5 disappeared by 1100Z. Nowhere near as good as the September 1978 opening to 34 degree mark. 29-4 Saw one of the best all round DX days in April. KH9AA KH9MS from 2230Z. KHMSQI gone by 0330Z. HL3TQ came in from 0400 to 0410Z, completely new to all States, peaking to S9+1 at times! KGBJMS from 0200 to 0330Z to VK3 at least. Enormous backscatter between VK6WD and VK2BQJ with VK5KK in the middle with 5 x 9 in each direction. Two VK3 stations evident but at lower level. When contact established (0300 to 0330Z) no VK3s could be heard otherwise it could have been a very interesting 4 State hookup! This must surely rank as one of the best backscatter distances in VK on six to date. All beam headings seemed to point to an area around and near to Heard amongst the VK4 stations. Several VK4s were heard, but the most successful in working VK6WD and 52 MHz but no details.

VK5ARZ, VK5KK, VK2BQJ, VK4ASZ and VK9GT, plus others. And of course JA at the same time! They were from 0300 to 1410Z with signals dropping to S2 around 0830 to 1200Z to VK2 and 5, etc. With signals to VK3 and 7 as well as to a slightly more restricted time basis but still 5 x 9. VK2BQJ for one worked over 200 JAs with like totals in VK3, 5, 6 and 7. It's no wonder the band has been so active since! Also heard a few VK4s from FODBR in VK2, 3, 4 and 5 on about 50.105 running a beacon to 50 around 2330Z. JA working KX6BU Marshall Islands from 0300Z to 05.05 Mhz. Later LAJ worked ZK1AA and FODBR on 50 MHz. To top it off, Es opening to VK2 and 4 from VK3 and 5, with VK2BQJ, etc., from 1100 to 1200Z.

"Es (or not Es), no question about it on 27-4 yet another in a series of Es openings, this time to VK2 from 0200 to 0400Z. Also VK4RO around 0200Z JAs on 52 around 0530Z but not strong to VK5. 28-4 — A lower area 5 x 7 from 0500 to 0600Z on 52 MHz to VK5. From 1130 to 1400Z Es to VK2 and 4 with 5 x 9 signals to VK5. One interesting contact was with VK2ZD1/P on 52.045 Jax (ex WABA4Z) was running an 'CQ2 inside a hotel room on the 22nd story. 5 x 9 a x 1, not bad for April. Although unconfirmed, VK5KK worked VK5KK and VK5KK worked VK5ATN on 43.1 Mhz. SSB with signals to S9. Interesting tropo signals as VK5SV also worked VK5ATN on 144.090. No other stations heard although it was nearly 2 a.m. before everybody a great! Also tropo conditions to VK5ATN on 52 Mhz. 28-4 VK5JY worked crossband to VK5KK, 50.025 a 28 Mhz (on a signal above 50 Mhz although a signal steady 519 from 0135 to 0158Z. Closest a new V4WVW crossband on 12-4 150 to 62 Mhz) JAs around 0500Z but not strong.

INDONESIA WORKED ON SIX

"On 30-4 more DX. Several malay extended 'p' pgs' on 52.055 from W9X... 2390Z. KGBX5 5 x 9 around 0300Z also to about 0112Z. At 0156 on 52.050 Mhz. YBOX (portable Expedition to Indonesia) worked by VK5KK 518 on Ch. V. Also at 0242Z SSB contact at 5 x 2. Signals from YBOX substantially stronger on 50.110 at this time. Heard by VK5LS at 0200Z 419 CW and on 55B at 0204Z but too weak for contact. It was also heard on the bands the following day that VK3OT had worked YBOX prior to the VK5KK contact, but we were unable to confirm this at present, still await the information from overseas. However these contacts would be amongst the first made during the first 24 hours of operation of YBOX, who later worked VK5GB and VK4RO at least, probably others.

BAND NEVER CLOSES IN VK5

"Next few days saw a reduction in openings to the southern States from JA, etc. However in VK4 and VK8 (doesn't the band ever close there?) things will still go along. JA, etc. to VK2 and 35 around 0900 to 0600Z. 31h1MK to VK4GB, VK5VV and VK8D1 on 2-5. More on 31h1MK expires later 3-5. Two K5s heard in OSO on 60.125 58B at 0031Z, signals lasted 150 seconds peaking to S5. At 0230Z VK8GB hearing VEs for quite some time 4-5 VK8GB heard VEs on 50 Mhz from 0300Z till VK8VV heard VEs on 50 Mhz to 105. Very good Es in JA at the time JA to VK5, etc., around the magical 0500 to 0600Z on 6-5 and 7-5. And more VK5VV worked KA5CEB on 52.005 at 0600Z on 5-5. Also VK5J worked VK8GB, VK5VV and VK8D1 around 0156Z on 52 Mhz. And more SSB heard on 50.190 peaking 75 degrees at 2345Z, about 5 x 1. Call sign only partly cgo ed (WA67?). Would you believe it came from the illi it was more common in early May than during the early parts of April, to hear 6-5 Es to VK2 from 2300 to 2330Z.

"Since then odd patchy JA and VK DX. Best days 6-5 (lower areas 5 x 5 for one hour), 20-3 and 22-5 for JA DX, no later than 0830Z on 52 Mhz. Es on 20-5 with VK4AZ2/M, VK4ZWH etc., to VK5ZFF, VK5KK and VK5LP. It seems also that JA has been cutting back on VEs from 0300Z to 0500Z. Also VK2V1 beacon appears quite regularly for a period between 2200 and 2300Z between S1 and S5. So far for one third of May the beacon has been audible for good periods outside the usual member scatter position. Also to hear a VK4 station at least one other VK4 has been successful in working KX6BU and 52 Mhz but no details.

AMATEUR BAND BEACONS

Freq.	Call Sign	Location
50.001	WAS5MHZ	San Diego
50.004	PY1RO	Brazil
50.010	HL3TG	Seoul
50.025	KH2P4	Haiti
50.028	6Y4RC	Jamaica
50.030	KL7CQG	Alaska
50.030	Z8WPF	South Africa
50.035	Z8WVF	Gibraltar
50.050	W4BNX	Maine
50.050	Z6LNL	South Africa
50.075	KH2P4	Columbia
50.080	TJ2NA	Costa Rica
50.090	VE1SIX	New Brunswick
50.091	WASJRA	Los Angeles
50.093	W4PPTA	Michigan
50.092	W7KMA	Oregon
50.098	KH2H	Arizona
50.100	Z8WVF	South Africa
50.101	FODBR	Tahiti
50.104	KH6EO	Pearl Harbour
50.110	K3GJH	Guam
50.110	J01YAA	Marcus Island
50.110	KH6KH	Marshall Islands
50.115	K0R0	Spain
50.116	AL7C	Alaska
50.500	584CY	Cyprus
51.999	YJBPV	New Brunswick
52.100	VK6BC	Casby Base
52.200	VK6VF	Darwin
52.300	VK6RT	Perth
52.380	VK6RT	Kalgoorlie
52.400	VK6RT	Launceston
52.460	VK6RT	Sydney
52.500	3D2AA	Fiji
52.800	J4ZIGY	Nagoya
52.850	ZL1VHM	Palmerston North
52.810	ZL1MHF	Mt. Climie
52.800	VK6RT	Albany
52.900	VK6RT	Carnarvon
53.000	VK6VF	Mt. Lofy
53.100	VK6MA	Mawson
54.010	VK6V1	Sydney
54.400	VK4RT	Mt. Mawson
54.475	VK4RTA	Canberra
54.500	VK6RT	Albany
54.700	VK3RTG	Vermont
54.800	VK5VF	Mt. Lofy
54.900	VK6RTX	Uverstone
55.000	VK6RT	Perth
55.100	ZL1VHF	Auckland
55.180	ZL1VHM	Waikato
55.200	ZL1VHF	Wellington
55.250	ZL1VHF	Palmerston North
55.300	ZL1VHF	Christchurch
58.400	ZL1VHF	Dunedin
432.400	VK4RBB	Brisbane
432.450	VK6RPX	Baliarat
432.475	VK7RTW	Uverstone

* Denotes these beacons operate on an attended basis i.e. operator in shack

** Repeater site on output on 50.075, input 50.125 PM

*** 3D2AA and VK6MA are doubtful. Awaiting some confirmation may be removed from August 1st

† No rece vrs available as yet at this base.

A number of new attended operation beacons have been added this time, but there are probably plenty of other such stations too.

VHF FROM EUROPE

A copy of a letter has come to me from a source unknown which gives some interesting background

WHAT DOES GO ON AROUND US

"YBOX DXpedition was an outstanding success with something like 2000 QSOs logged. Most were with JAs to say the least! Also HLRTG, H4PT and H44DX, K4HJA at least worked also. YBOX heard W6 on 5-5 around 0800 (also open W6 to VK8). Many openings between VK8/H44/YBOX. Three active +44s during this period. H44DX, H44PT and VK4ZZZ/H44 5-5 K6G to W6, also YJ8PV strong n W6 at 0400Z

"9N1BMK was worked by VK8GE, VK8VV and VK8D also by JAs on 3-5 (JA4, JA8, plus Okinawa) around 1500Z. Only weak scatter signals in JA4. Heard one from JA to 9N1 H44PT to 8-KHMK on 3-5 (night time). KAGHF to 9N1MKM KP9NT/DU2 also to 9N1BMK C9PAJ is still active but only at odd times and very hard to catch. VQ9KK (Irate JA) worked on one very early morning, in JA1. Pity I wasn't the real thing

"Marshall Islands has two sources of activity now. Firstly KX5BU, take your pick, Andy, Ed or Roger. ... runs a Swan 250 to a dipole. A lot of time from 10-1500Z. KX5BU runs 10 watts into a dipole. Best DX contacts in JA. Heard about tropo on 432 MHz? KX6HME runs a beacon on 432.075 MHz 24 hours a day, mostly beaming on W6. Elevation 8000 feet as back to x metres. A W6 heard JA7s at 0200Z on 4-5 by some form of propagation (E?) And on 8-5 Z58LH worked 884AZ on 6 metres a real north-south path.

"VZ2RM from the Eastern Coast of India, is active on six metres. At the moment it seems he has a spot allocation of 50-150 MHz, although mention has been made of a segment between 52.5 and 52.75 MHz being available. Working to JA from 8-5 between 0600 and 0900Z. Mode is CW. Also unconfirmed report that VZ2RM has been heard in VK8. Location is about halfway up the eastern coast. So far this station seems to be OK, not one of those JA states. While on that, VK3OT and he heard VQ8KK around 1100Z one night in April, so those pirates get about!

THE 50 MHz DEAL

"Finally like to know how VK8 and ZL are about the only plans of any consequence in the light of what may be a temporary or otherwise allocation on 50 MHz for the present cycle. 21 Really, in some places like VK8, 6 and 8, we hardly see much of Ch. 0 for 10 months of the year. In VK8 especially that might apply for 365 days out of 365, going on last years EA. Even on those days the band probably won't open anywhere else so the need doesn't seem to be there for 50 MHz or those other bands. The greatest resistance to a 50 MHz allocation is apparently in the Broadcasting Service itself

"Also from SMIRK comes a useful reminder. For the purpose of awards, QSL cards marked without specific frequencies (i.e. 6 metres) will not be accepted. And those specific frequencies should be 52.5, ... etc., otherwise we don't worry about trying. It is just a simple interpretation of SMIRK rules. Basically contacts must be made within the restrictions of one's licence and proof thereof must be established. And that applies to both ends of the 50 to 54 MHz band too, so the US and other areas won't be any better off. It's one way of getting a more obvious little problem squelched! Thanks, David, for your state of information.

A WARNING FROM SMIRK

While we are on the subject raised in the last paragraph of David VK5SK's news above, perhaps it is relevant to include what the SM RK Newsletter No. 26, dated 5-5-79, has to say on the matter, and I quote

"On the subject of DX there is a practice that is getting out of hand. I (K5ZMK) would like to remind all operators, world-wide, that to my knowledge there has been no change to VK frequency allocations yet. Their band is 52 to 54 MHz. There should be NO contacts occurring with VKs operating below 52 MHz or ZLs operating below 51 MHz. Any contact made outside their authorised band limits cannot be considered a valid contact or be accepted toward an SMIRK seal or award, like DXCC. I have written SMIRK not to accept any ZLs or ZL contacts that do not meet the 52-54 MHz frequency for VKs or 51-52 MHz frequency for ZLs. It is not good amateur practice to operate out of one's band and may get both parties cited by their respective enforcement agencies. The US is a signatory to an international agreement stat-

ing that US amateur radio operators will not contact stations known to be working outside their bands. About a dozen operators have been cited recently by the FCC for doing just that. You put yourself in jeopardy if you answer the call of a station working out of their limits. Not only that, such practices give us a black eye all at time when many VKs are seriously working to get their frequency allocations changed to include 50 to 54 MHz as their TV Ch. 5. We have the band. It might seriously hinder their efforts, not to mention the fact that WARC is almost upon us. Let's clean the situation up. Contacts are already being made at 52 MHz, so just wait it out"

I couldn't agree more. I have worked pretty hard so far in efforts to try and get some form of allocation between 50 and 52 MHz, and so have some others. I don't want the efforts so far to be undermined by the selfish operators, who must grab everything wherever it appears, perhaps the SMIRK viewpoint might steady things somewhat. Recently I heard FO8DR on 50.105 of 89, I could easily have fired up and grabbed him, but didn't, even though I have not worked that prefix. I don't look for any pbs on the back for being a good boy, but I simply don't approve of out of band operation by anyone

It is unfortunate, of course, that we are continuing to miss out on overseas contacts due to our 2 MHz isolation from the other areas of the Pacific in particular. There are plenty of documented occasions when the MUF doesn't go up to 52 MHz, but hovers around 50 MHz, often with weak to marginal signals, but strong enough to work if we could go down there. And I repeat again, the altitude is 10,000 ft. It is hard to understand in not granting some form of concession for the sunspot peak, even if we were allowed to go down and invite a 50 MHz station to come up to 52 MHz if the conditions would allow such a contact, or better still, if we were allowed to have DX contacts with stations outside Australia on the same basis that DXCC worked from Indonesia simply the exchange of RST reports, name, and that's it. Such an arrangement wouldn't hurt any television viewer, and would make a lot of amateur operators in both Australia and overseas much happier. Is it too much to ask? Such special contacts would not last longer than two minutes, probably much less than that

LETTERS OF INTEREST

In a letter which got missed somehow in March from John VKZEDD (sorry) was some further information on the fantasy of opening to WATTN/KLT on 13-3 at 0645Z, and for two hours signals varied from S1 to S9+. At one stage Clay called CO Australia for 5 mins, and no answer! But he did work VK1, 2, 3, 4, 5, which must have thrilled many operators. Clay will be in the Aleutians until the end of July 1979, and his QSL address is Box 444, APO Seattle 98376. Thanks also for the PRC10 circuits, John.

Phil VK2BYX has now worked 13 countries on six metres on 7-0132Z K80BX and K6GJF on No. 10. 13-3-0157Z WA4TNY/KLT 5 x 9 both ways for country 11, 18-3 0936Z HL87G for No. 12. 6-4 2345Z W6XJ for number 13. On 3-4 heard XE1GE but didn't last long enough for a QSO. JAs have been in most of the time, plus KH8 and K6G again. Phil has received the SMIRK DXCC Award No. 55, despite living 100 feet only from Hove VK2ZD1.

Roger VKZ2TB has sent along some interesting information on VHF propagation, for which I thank him. Additionally, he advises Joe Burke WABQGS, from Cincinnati, Ohio, is seeking correspondence from stations in Australia and surrounding regions interested in conducting skeds on six metres. Joe has trans-Pacific F-layer QX and moonbounce in mind. He runs 2 LW of 500 W to four or five element yagis in an H frame configuration. Joe has heard his own EMF echoes from the setting moon, and is currently working on an elevation system for his antenna. He intends installing either larger antennae on the existing mount or eight sixteen element arrays later this year. His address is 10851 Mt. View Rd Cincinnati, Ohio 45228, USA. Phone (US) 513 385 4118 after 1900 US time. Sounds like Joe means business with the equipment in use. It's over to you, the readers.

Roger advises me he is back on six metres, sharing a shack with Phil VKZ2QZ and Mike VK2AM. Running an FT620 to 8-element coaxial collinear, horizontal polarity

On the Melbourne scene a letter has come from Gill VK3AJ which shows that on 16-4 1300Z K60BX was heard weakly before fading out. On 18-4 1025 to 1100Z JA1, 3, 4 and 5, 23-4 K6G heard JA2CZJ at 0300, H49TG 0310 to 0330Z, and KH8E-QJ beacon 0230Z, and again at 2300Z. KH6MS worked 2325 VK3AIQ and VK3NM also worked KH8NS 24-4. HLRTG heard 25-5 W6TFS heard VK3AJ, VK3AQR and VK3ALQ, but they couldn't hear him due to crud from the moon. On 24-4 0452Z K4HBLJ 25-6 K6GJA 26-4 0000 to 0132Z K6GJA, then the VK2 and 4 on backscatter, then JA1 to -4-3 inclusive, HLRTG Most s-grals were 5 x 9 from 0030 to 0600Z. It looks like the b signals are needed to work over the top of Ch. 0

Hal VK40D sent a letter in March which never arrived, so have just received another outlining his contacts during the big opening on 2-3 on 52.505 where four W stations were worked over a period of 1 1/2 hours. Being N6CT whom he worked several times with 30 watts, and also using his IC502 and 4 element yagi and still received 5 x 21. Hal also heard WA4TNY/KLT on 12-3 at 5 x 9 for a few minutes. HL8 and K6G worked a number of times. JAs started coming through on 7-2 and up to 10-5 had worked 880 compared with 930 last year. In the same period the band is at present quiet like everywhere else

Paul VK3BX writes to say that since 24th April 1979, the Canberra Radio Society has had in operation their UHF repeater V1RUCB operating 438/440 MHz. Power output is 10 watts. Antenna 15 hall waves in phase and the mobile range about 40 miles, with the antenna height at 56 ft.

Letter from Tony VK8BV shows six metres has had plenty of life in the West. I seems an extra 1100+ miles for stations emanating in the Pacific down to matter, a 23-4 K6GJF to -4-3A both heard around 2300Z. Ags in 24-4 Same day worked H49TG at 0324Z. JAs from 0330Z 25-4 KH8E-QJ reported by Wayne VK5WD 050Z, JA 0515Z 26-4 KH8E-QJ 0000 to 0135 to 37 K6G JA heard on 52.010 at 0007 5 x 3 for 15 sec. KH8 AA worked by VK6GF and VK3KK JA2CJ beacon heard in Northern at 20-5 over -4-3. VHF beacon on 20-5 HLRTG JA2CJ on 27-4, K4KEGI heard by VK8QX 29-4. K6GJF worked by VK8EVI and VK8ZKO. So it looks as though as at the end of April anyway KH8 had proved elusive for working two way to VK8 southern areas.

50 MHz AND EUROPE

"Radio Communicaions" for April 1979 gives some interesting information on what has been happening from England and other European stations bridging the Atlantic to African continent working crossband 28 to 50 MHz. Here are a few of the more choice happenings

The first 50 MHz opening to America for 21 years occurred on 10-3-79, G3CQJ contacted W8RLK/VF1 at 1300Z on 50.110 MHz. The band had been open on 8-2 and 9-2. On 11-2 G3F3X worked W8BIVH/V1 in South Carolina, also WA1DZ and W8RLK/VF1. These contacts were near 50.005 and on DW, to 28 MHz at the European end

The Gibraltar beacon ZBRVWP on 50.035 and beaming west to USA) was heard on EHP from a 50 MHz signal was heard in America on at least 12 days in February. The Cyprus beacon on 50.488, which is still beaming south, was heard on 9-2 by VE1ASJ and WA1QZJ. DX2ZF reports hearing strong signals from the South African beacon Z8PWP on 50.030 on 19-2 at both 1100 and 1555Z

Actively peeked on the west to east path on 80 MHz around 15-2, when as many as 40 crossband contacts were made. The first Germany and Canada contacts took place on the west to east path on 10-2 W8RLK/VF1 at 1413Z. 23B1L is reported to have worked as far as 100 on two-way 50 MHz on 16-2, and many crossband contacts have been taking place between Greece and South Africa. Most of the England to America contacts have been taking place on 28.450 MHz and if on GW on 50.010 and 50.010

ESR in Dublin is also licensed to operate 50 MHz and during the autumn and winter of 1977-58 had nearly 300 contacts with W 512W will be the only station north of Gibraltar to be able to work 50 MHz unless other stations are given special permits

NEW TRANS-EQUATORIAL RECORD ON 144 MHz. Also included in the "Radio Communication" article was that SV0DH in Greece worked Z66DN in South

Africa at 18102 on 13-2, at a world record distance of 7,117 km. This record stood for three days, until 5V1AB also worked ZS6DN over a distance of 7,127 km. 5V1AB also heard ZS6G in Durban, a further 400 km.

LATE NEWS FROM EUROPE

The 52 Mhz band stayed open to South Africa during the first two weeks of March with G3CQJ and G3FJB working crossband to ZS6XJ, ZS6ASO, ZS6AUG and ZS6BGO. The African stations listened around 28.233 MHz. The English stations were full of praise for the strong signals being heard from the Canadian beacon VE5ISX on 30.068, which belied with west-east contacts.

SMIRK NEWSLETTER No. 20

What an incredible amount of six metre information. Ray Clark K2JMS is to be congratulated on putting it all together. Three closely packed foolscap pages of information covering the world-wide contacts being made on 50 to 54 MHz. Most contacts of course are taking place on 50 MHz, being the International segment, so we miss out on much as usual. The news in the SMIRK Newsletter is so vast one just cannot start to take information from it, it's just an incredible news sheet, to put it mildly!

SOMETHING TO LISTEN FOR

Apparently there is a beacon in Alaska signing K7TDC on 80.040, which could be useful. Also there is that communications station in Darwin VLUSA on 48.450 MHz, and three USA television video carriers are to be found on 55.240 55.250 and 55.260 MHz. Being of considerable ERP these last three would be worth taking a look at from time to time. Bill W3XQ of QST World Above 30 MHz mentions a beacon on 80.550 signing K4ERO in Quito, Ecuador, also CHOTB on 80.100 from Easter Island.

EME REPORT

Further to the brief note last issue, Chris VK5MK has written confirming his success on 432 MHz EME as follows: 21-4 0840Z VE7BBQ M/M reports 1020Z J80CZ O/O reports. 22-4 1705Z ZESJJ O/M 1810Z 1815H O/M 0915Z K3NBS O/O and 0930Z K2UTV M/M. His signals were also heard by Ray VK8ATN using a 18 foot dish, and a few odd letters were heard by VK3KFF using a single loop yagi on a 17 to 20 foot boom. Chris reports all the stations worked have larger antennae than he did, and have been on for some time. He has a few more improvements to make, particularly to his receiving system.

PRC10 ARMY TRANSCEIVER

Mark VK6AYO has offered the following information in an attempt to help anyone having difficulties in getting to grips with the PRC10 transceiver which is being used quite extensively for monitoring 30 to 55 MHz. 1. Circuit diagram, plus basic alignment data and other notes for \$1 to cover envelope, copying and postage. 2. Additional details, up to about 32 pages, including the above for \$2.50.

I have seen the information made available by Mark and it is good value for the money asked. Address your enquiries to Mark Spooner, 30 Milne Street, Vse a Park, S.A. 6081

SMIRK 100 AWARD

Congratulations to David VK5NK who has just received his SMIRK 100 Award, No. 265, for confirmed contacts with 100 other SMIRK members. Current SMIRK membership extends to 58 US States and 43 countries, with 3,140 members, 265 now hold the 100 Seal, 110 the 250 Seal, 38 the 500 Seal and 3 the 1,000 Certificate. 50 also hold the DXDC Award, which is for 10 countries confirmed on 6 metres.

INDONESIA ON SIX METRES

The news is not quite that good, but six metre operation by a special station, call sign YB0X, has been permitted for three operating periods.

The station has been authorised by the Indonesian government to carry out propagation tests on six metres. The station will be operated by members of the Indonesian Amateur Radio Organisation, ORARI, together with a goodwill group of Japanese operators.

Details of the station operation are as follows — Call sign YB0X

Operating Periods: Initially 29th April until 7th May, 1979, followed by follow-on tests in August and October, 1979

Location of Station: Jakarta

Frequencies: 50 110 MHz and 52.050 MHz. Beacon Cycle 30 seconds transmitted followed by 10 seconds listening period. Modes: CW and SSB.

Rigs: FT620D, FT901 and FT901DM.

Break ins for exchange of signal reports and SWL reports are welcomed. OSLS will be handled by JA1UT. The station will also work Oscar and the HF bands.

This information was supplied by Sawondo YB0AT on behalf of ORARI.

2m DX TO JAPAN

Following last month's announcement of the VK8 to JA 2m FM contact, Albert VK8HW and Lynn VK8EW have provided us with a little more information on their contact.

The rig used was a Trio TS700 modified for full coverage from 144-148 MHz, all modes.

The antenna is a home brew eleven element beam with gamma match at approximately 25 ft.

Weather conditions temperature 28°C, humid, no wind or cloud, the sun had just set.



Lynn VK8EW and Albert VK8HW.

BALLAR BEACON

A brief message has come through that the Ballar beacon has been delineated. At this stage no further information is available.

Perhaps that is not a good note to close on, but close we must. Thought for the month: "There are three ways to get something done; do it yourself, hire someone or forbid your kids to do it!"

73. The Voice in the Hills. ■

QSP

LONG-RANGE PLANNING

April 1979 QST editorial deals with the future for ARRL. The League's Board directed ARRL President to appoint a long-range planning committee for the purpose of reviewing and making recommendations to the Board concerning the programmes which the League is and should be providing to its members and to the amateur radio service. Comments were that many people were concerned that the ARRL has been inclined to react rather than proact, that membership services have become a patchwork quilt affair without any overall plan of co-ordination and that the League tended for years to react to rule-making proposals emanating from the FCC rather than setting a course for the future regulatory development and guiding the FCC into fulfilling it.

2m DX

On 16th February 5V1AB in Athens worked ZS6DN in Pretoria, to set a new 2m DX record of 7127 km. Three days earlier 5V1DM had worked ZS6DN on a 7117 km path. KP4ES, KP4Q and KP4AAN all worked into Argentina on 2m FM on 15th February — Ham Radio, April 1979. ■

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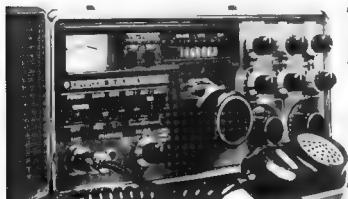
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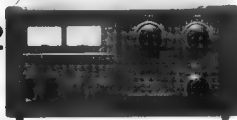
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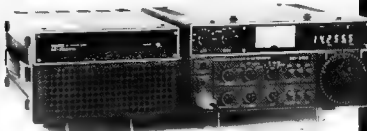
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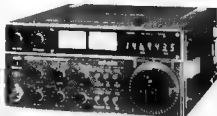


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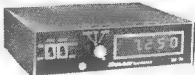
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REMEMBRANCE DAY CONTEST 1979 — RULES

11-12 AUGUST 1979

A perpetual trophy is awarded annually for competition between Divisions of the Wireless Institute of Australia. It is inscribed with the names of those who made the supreme sacrifice and so perpetuates their memory throughout Amateur Radio in Australia.

The name of the winning Division each year is also inscribed on the trophy and, in addition, the winning Division will receive a suitably inscribed certificate.

OBJECTS

Amateurs in each VK call area will endeavour to contact other amateurs.—

1. In other VK call areas, P29, and ZL on all bands 1.8 through 30 MHz.
2. In any VK call area (including their own), P29, and ZL on authorised bands above 52 MHz and as is indicated in rule 5.

CONTEST DATE

0600Z 11 August 1979 to 0758Z 12 August 1979.

All amateur stations are requested to observe 15 minutes silence before the commencement of the contest on Saturday afternoon. An appropriate broadcast will be relayed from all Divisional stations during this period.

RULES

1. There shall be 3 sections.—

- (a) Transmitting Phone.
- (b) Transmitting CW
- (c) Receiving

However separate logs may be submitted for sections (a) and (b).

2. All Australian Amateurs (VK call signs) may enter the Contest whether the stations are fixed portable or mobile. Members and non-members of the Wireless Institute of Australia are eligible for awards.

3. Amateurs may use the following modes.—

- Section (a)—AM, FM, SSB, TV
- Section (b)—CW, RTTY

However separate logs may be submitted for sections (a) and (b).

4. Cross mode operation is permitted but both stations may only claim points as for a phone/phone contact. Cross band operation is not permitted excepting via a satellite repeater.

5. SCORING CONTACTS

- (a) On the 3.5, 7 and 14 MHz bands a station in another call area may be contacted once on each band using each mode. That is, you may work the same station on each of these bands on Phone, CW, SSB and RTTY.

- (b) On the 1.8, 21 and 28 MHz bands, a station in another call area may be contacted twice on each band, using each mode provided that not less than 12 hours has elapsed since the previous contact on that band using that mode.

- (c) Between 1600 hours GMT and 2100 hours GMT on Saturday, intra-call area contacts may be made on the 1.8, 7, 21 and 28 MHz bands once for each mode on each band.

- (d) Between 0300 hours GMT and 0759 hours GMT on Saturday, intra-call area contacts may be made on 1.8, 21 and 28 MHz bands once for each mode on each band.

- (e) On the bands 52 MHz and above, the same station in any call area may be worked using any of the modes listed in rule 3 at intervals of not less than two hours since the previous same band/mode contact. However, the same station may be contacted repeatedly via satellite not more than once by each mode on each orbit.

- (i) All CW/CW, SSB/SSB and RTTY/RTTY contacts count double. Note rule 4 re cross mode contacts.

6. Multi-operator stations are not permitted (except as in rule 7), although log keepers are allowed. Only the licensed operator is allowed to make a contact under his/her own call sign. Should two or more licensed operators wish to operate any particular station, each will be considered as a contestant and must submit a log under his own call sign.

7. Club stations may be operated by more than one operator, but only one operator may operate at any one time, i.e. no multi-transmissions. All operators must sign the declaration.

8. Entrants must operate within the terms of their licences.

9. CYPHERS:

The serial number will consist of three figures that will be incremented by one for each successive contact. A contestant may start with any number between 001 and 999 but when 999 is reached he will start again at 001. If separate logs are being entered for sections (a) and (b) then separate cyphers are to be used.

10. ENTRIES must be set out as shown in the example using one side of the paper only. Envelopes must be marked "Remembrance Day Contest", postmarked no later than 3 September 1979 and posted to FCM, Box 1065, Orange.

11. TERRESTRIAL REPEATERS: Contacts via terrestrial repeaters are not permitted for scoring purposes. However, contacts may be arranged through the repeater and if successful on another frequency, that contact counts for scoring purposes.

EXAMPLE OF TRANSMITTING LOG

Date/time GMT	Band	Mode	Call sign worked	NR sent	NR rec'd	Points
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EXAMPLE OF RECEIVING LOG, VICTORIAN BSWL

Date/time GMT	Band	Mode	Call sign heard	NR sent	Station called	Points
0612	7	P	VK6PS	56002	VK6RU	2
0618	7	CW	ZL2AZ	55004	VK4KI	6
0618	14	P	VK0ZZ	57006	VK6FI	6
1820	28	P	VK3NAA	58077	VK3NZ	1

SCORING TABLE FOR PHONE CONTACTS — ALL CW/CW, SSB and RTTY CONTACTS COUNT DOUBLE

(VK)	0	1	2	3	4	5	6	7	8	9	ZL
VKD	—	6	6	6	6	6	6	6	6	6	6
VK1	6	—	2	3	3	3	4	3	4	5	3
VK2	6	2	—	2	3	3	4	3	4	5	3
VK3	6	3	2	—	3	2	4	2	5	5	3
VK4	6	3	2	3	—	3	5	2	4	2	4
VK5	6	3	2	3	2	—	3	3	5	6	4
VK6	6	4	4	4	5	2	—	3	2	5	5
VK7	6	3	3	2	5	3	3	—	5	5	3
VK8	6	4	4	5	2	3	2	5	—	2	4
VK9	6	5	5	5	4	5	5	5	2	—	5
P29	6	5	5	5	2	5	6	5	2	5	—
ZL	6	3	3	3	4	4	5	3	4	4	—

All intra-call area contacts on 52 MHz and above, or as indicated in Rules 5 (c) (d) and (e), are worth one point.

12. PORTABLE OPERATION Log scores of operators located outside their own call area will be credited to that call area in which operation takes place, e.g. VK5XY/2. His score is added to the VK2 scores.

13. All logs shall be set out as in the example shown and in addition MUST carry a front sheet showing the following information in this order:

Section, Score, Call Sign, Modes, Name, Address
Declaration: "I hereby certify that I have operated in accordance with the rules and spirit of the contest."
Signed
Date

14. The Federal Contest Manager has the right to disqualify any entrant who, during the contest, has not observed the regulations, or has consistently departed from the accepted code of operating ethics. The Federal Contest Manager also has the right to disallow any illegible, incomplete or incorrectly set out logs.

15. The ruling of the Federal Contest Manager of the WIA is final and no disputes will be entered into.

AWARDS (Sections (a) and (b))

Certificates will be awarded to the top scorer in each section for each call area and will include the top Limited and Novice station. There will be no outright individual winner. Further certificates may be issued by the FCM at his discretion.

The Division to which the Remembrance Day Trophy will be awarded shall be determined by the following formula—

Total call area score from sections (a)-(c) of rule 1 multiplied by the number of full call areas received from that area and divided by the number of full licences in that call area.

VK0 scores are added to VK7 and VK8 to VK5. Scores by VK8 stations are added to the mainland call area geographically nearest. Scores claimed by 2L and P2B stations are not included in the scores of any VK call area.

Acceptable logs for all sections shall show at least 10 valid contacts. The Trophy shall be forwarded to the winning Division in its container and will be held by that Division on the specified period.

RECEIVING SECTION

1. The section is open to all Short Wave Listeners in Australia, Papua, New Guinea and New Zealand but no active transmitting station may enter.
2. Contest times and logging of stations on each band are as for transmitting.
3. All logs shall be set out as in the example. It is not permissible to log a station calling "CQ". The detail shown in the example must be recorded.
4. Note the times and conditions set out in rule 5 (transmitting).
5. Club stations may enter this section. All operators must sign the declaration.

AWARDS

Certificates will be awarded to the highest scorers in each call area. Further certificates may be awarded at the discretion of the Federal Contest Manager.

YOU and DX

Mike Bazley VK8HD

8 James Road, Kalamunda WA 6076

CHAIN LETTER

Have you recently been the lucky recipient of a chain letter that originated from the USA? This writer has just received three, all from other amateurs who have never been contacted before on the air. Why send them to me? The letter states that if I continue the chain (which is reserved for amateurs only) then I will be receiving upwards of several thousand dollars in the future. There is only one way to deal with these sort of letters—file them in the WFB after removing the stamps of course. If you are a philantist like me! The old proverb always holds true: You don't get something for nothing.

QSLs

What is a QSO? Well, if you chase DX and submit your QSLs to ARRL, do you know that they note whether the cards have your call sign on plus date, time and mode, the report is unimportant. This was confirmed by the ARRL to 4HD way back in the late 50s when a QSL was submitted with a 3 and 1 report on it. Previously I had always thought that the minimum report required was 3 and 3 or 309. If you get your call put on a list and the MC passes the list to the DX station, have you made a QSO? The DX station now has all the necessary information so why repeat it.

The Warrington and District ARS will be operating under the call GTACDA (specie ROM prefix) from 1st to 4th July on all HF bands. They ask that all QSLs be accompanied by at least 1 IRC and proceeds from the DXpedition will go to charity. The QSL QTH is PO 58, Isle of Man.

10 METRES WAS NET

Pat VK30V passes on information that will be of value to anyone chasing WAS on 10 metres. A WAS net meets every Sunday on 28525 kHz plus/minus QRM at 2000 GMT.

SV NET

For those VKs who originally hail from SV land the Greek International net operating on 14255 kHz at 0500, 1300 and 2000 GMT with an alternative frequency at 0500 of 14705 kHz, plus or minus QRM.

UK MARKET

Ken VK3AH mentions that Mary Anne Grider WA3WHJ, of RD2, Box 54 York Haven, PA 17370, is QSL manager for C8AAE, CN8AK, CN5CW, CT1BY, CT1KO, CT1OF, JY1, KP8KC, M1B, OY5J, T42SC, ZPSWV, J42CP and VE3RWK/AX. This writer can confirm, from personal experience, that Mary Anne does a fine job in handling the QSL problems for the above stations.

PACIFIC DX NET

A reminder to readers that the Pacific DX Net (one of the better run nets) is still going strong Tuesdays and Fridays 14255 kHz at 0600 GMT. VK, ZL and Pacific Stations always welcome.

Unfortunately, the time of the net prevents most VKs from participating (1400 local), unless one is on holiday or retired.

"SURE QSL"

During a recent QSO on 10 metres, AP8KX told this writer, who had requested QSL information, that he did not QSL, so please do not send a card. I collect QSLs myself but to be honest I was pleased that I got a truthful response. There is no requirement on any amateur to QSL. If this part of the hobby does not interest him, my main grumble is against those amateurs who say "sure QSL" when asked and never do.

NEW STATIONS

Evan VK3ANI has supplied me with the information on those new prefixes emanating from the USA and their possessions. To quote from VK3ANI's letter:—

Call signs that were issued before the new system can be retained hence KG6 and KH2 are both from the same area.

(P) Pacific Ocean based US territory

AH1, KH1, NH1, WH1 Baker, Canton, Enderbury and Howland Is.

AH2, KH2, NH2, WH2 Guam.

AH3, KH3, NH3, WH3 Johnston Is.

AH4, KH4, NH4, WH4 Midway Is.

AH5, KH5, NH5, WH5 Palmyra and Jarvis Is.

AH6, KH6, NH6, WH6 Hawaii.

AH7, KH7, NH7, WH7 Kure Is.

AH8, KH8, NH8, WH8 American Samoa.

AH9, KH9, NH9, WH9 Wake, Wilkes and Peale Is.

AH0, KH0, NH0, WH0 Northern Marianas.

* If the suffix begins with a K then it is the

Kingman Reef, Is. AH5K, KH5K, NH5K and WH5K.

AL7, KL7, NL7, WL7 Alaska.

(P) Caribbean Ocean locations note that AP is not

allocated as it belongs to Pakistan.

KP1, NP1, WP1 Nevis Is.

KP2, NP2, WP2 Virgin Is.

KP3, NP3, WP3 Rancador Key, Quito, Suano

Bank and San Blas Bank.

KP4, NP4, WP4 Puerto Rico.

Other US possessions, such as the Marshall

Islands, are not under FCC control so they retain

their old call sign prefixes.

All the maintain prefixes remain the same but more have been added from the block AAA-ALZ, which is allocated to the USA, Is. AA, AB, AD, AE, AF, AG, AI, AJ and AK are all mainland USA prefixes.

ITU allocations for USA are: AAA to ALZ, KAA to KZZ, NAA to NZZ, WAA to WZZ.

The exception to the rule (7) is KAZ to KAS, US Military people in Japan.

IRRM

I trust that all have managed to get VR6 in the log. The operation by VR6H and VR6SD should have helped many, myself included.

Does anyone have QSL information on FG0DYM/PS7 recently QSO'd on 3.5 and 14 MHz CW?

SPRATLEY

Congratulations are due to the Spratly Island operation—at least as far as VKs are concerned. Henry VK2BJL made the effort to work as many VKs and ZLs as possible—thanks. There were criticisms of this DXpedition from the States and Europe because it was thought that too much attention was paid to working JAs and the Pacific Area. We do know that the DXpedition had real problems in landing on one of the Spratly group. We don't know what propagation conditions were like for them, but it should always be remembered that operating con-

ditions are always better from a comfortable shack than from a tent being invaded by bugs, mosquitoes, etc.

BITS AND PIECES

9W18MK has been very active lately, being heard/ worked on 14-28 MHz. Says QSL via JARL or JAB8MK. Seems genuine.

Remember how easy it used to be to work into C8S (Angola)? Well it appears that once again there is activity from this location. OK3TAB/02A has been heard on 20 SSB QSL via OK bureau.

V145C showed on 20 SSB in early April (QTH in list). This writer was one of the lucky ones, getting a QSO on 14245 at 2242 GMT. If you need it it might be worthwhile checking with one of the Arabian stations active at the moment or checking into the Arabian Knights net, which meets on a Friday night 1400 GMT often around 14190 kHz.

With winter approaching it should be worthwhile checking 40 and 80 metres at sunset for some of those South American countries. It's a time of the year the darkness path is at its optimum.

Rumours have it that there may be some activity, during the northern summer months, from Abu Ali in the Red Sea. The rumour has it that J8RAZ may be active from there.

A further thought on the European summer. Remember during the summer months June/August, a lot of amateurs make their way to such spots as 342, LX, SV, MI, OH2, HB0, etc., for their summer holidays. If you need any of these it is worth looking on the usual DX frequencies, e.g. 14195, 21295, 28500 and 14025, 21025 and 28025, as these sort of semi-DXpeditions are not usually publicised in advance.

FROM THE WEST GULF DX BULLETIN

EX EP2LI should be moving to ATX Qatar shortly. HB9PAN/5Y has been heard on 21165 from 1402Z. The station is located at the Swiss Embassy in Feking. It is rumoured that a Swedish group may put the call ZL2R on the air from Alaskan. Watch those DX frequencies! C8BAT, South Shetlands, is active on 20 SSB, QSL via CE2BIO WGVW should be QRV from FW8 during the month of June, mostly or CW.

Well, that's the lot for this month. Many thanks to VK3AH, VK3ANI, VK30V, VK4KH, VK8AJ, VK8L and the West Gulf DX Bulletin. My dead line for the August issue is Tuesday, June 26th.

SWLS

When one reads a column on DX and DX happenings, I suppose most people tend to think that it is only useful to transmitting amateurs. This I think is a pity. Once upon a time the natural progression to "hickety" by becoming interested in the hobby through being a SWL. What has happened to the SWL fraternity? Contrary to the thinking of some, I believe the SWL has an important part to play in the amateur DX scene. For myself, welcome receiving a useful SWL report, particularly when it tells me something I didn't know—for example being heard in a particular part of the world when I thought my signals were not getting out.

The Australian SWL is in a unique position. In that a large number of DX chasers are keen to work VK, particularly on the LF bands. SWL reports could and should be able to provide useful information and for the sender's benefit. The inclusion of a QSL received in return (Yes I do QSL all SWL reports received). By the way, SWLs could also provide another service by letting this writer know what you've been hearing. It could be of interest to us all.

Whilst on the subject of SWLS, readers may be interested to know that the "G Watts News Sheet", which used to be published by Geoff before his recent illness, is being distributed by the RSGB. Geoff will write the editorial, but has given the enormous chore of printing and distributing the weekly news sheet. Anyone interested in receiving further information could write to RSGB, 35 Doughty Street, London, WC1N 2AE enclosing return postage. For those for whom the name does not ring a bell, suffice to say that Geoff Watts has been a life long SWL, and at one time his news sheet was the most widely quoted DX information source of amateur radio magazines.

NEWS, NOTES AND RUMOURS

WB8GGG/KHT, Kure is 14310 and 14345 kHz last operation scheduled to be active from Kure for 12 months.

Prefixes J6 is St Lucia (ex VP2L), J7 is Dominica (ex VP2D), 6T1 and 6J1 are Sudan (ST). Argentinian stations LU-2A, ZG, ZM are South Orkneys, ZY South Sandwich, ZT South Shetlands, other LU-2 stations are on Antarctica.

For those working 4U1JN, this writer had a QSL back within 14 days by OSing via W2MZW.

I have not worked Seychelles, ST9, it is suggested that you make the effort as no new licences are being issued. ST9HVV is quite active on 14 MHz SSB.

Rumour has it that Mount Albatross, SV, is on the cards during the Northern Summer (June/August). Groups from D., SM and SV are known to be interested.

CEBAE Father Dave Reddy should be a powerful signal on the bands as the North Californian DX foundation has shipped him a linear. Pity Dave doesn't do a little bit more CW operating as he is usually found on SSB. On the very few occasions that he has been heard (recently here on CW always on 80) he has shown that he has an excellent list.

OS8XGA/A was putting a good signal into VK6 on 10 metres during their recent DXpedition. OSLS go to WA3HJP (Pulit GTH in last month's AR).

VR6H retired to 33.115 GHzs on Pileup made up of 170 on 160m, 780 on 80m, 2000s on 40m, 810 on 20m, 3300s on 15m and 10,855 on 10m. It is reported that the stack of OSs received is now nearly 15 feet tall!

The new operator at Z8M1 is Z8BEE who asks for QSLs via Z8BAPO. He has been working on 14 SSB and CW.

ZDTHM was heard the other day on the P2WS ret on 14220 kHz. Quite good signals into VK6.

UK1PAA Franz Joseph land is reported active again on 20 and 40 CW. It is hoped that SSB gear can be shipped there before the Northern Winter sets in.

Rumour has it that Sable Island (VK) will be activated by a group of VEs some time in July or August.

If you, QSOed WA8EW/TT9 recently, very ORV into VK on 15m SSB. QSLs go via WSWX, Box 717, Oakdale, California 94604.

Burund, is once again on the DX map. BUBAN has been heard on 20 CW asking for QSLs via ZD2QD.

SVJL is scheduled to open up from Crete any time now as SVS. The lucky ones will be able to QSL him via Box 502, Iraklion, Crete.

Those looking for Tunisia should be advised to check the low end of 20 around 0800Z when SVBAA often shows. Has been heard/worked on 1400Z listening 6 up OSs via ISGLYN.

The new operator at LU3ZJ has been heard in the States on 7007 kHz at 0000Z. He asks for QSLs via LU2GH.

If you hear TH8MJ don't think you have heard a pirate. This call has been issued to John Montague, who is the communication officer in Bangor, Central African Republic.

There is still no news of anyone receiving a QSL from the recent Descheuch, KP4AM/D operation. The rumour mongers are saying that this operation is not now acceptable for DXCC. Time will tell!

Did you work D2A/BZ between 11-11-75 and 15-12-76? A QSL can be obtained from PYSWD, PO Box 83, 80,000 Curitiba, Pr, Brazil.

Don't pass VY8LE by if you need British Phoenix Islands. Apparently the previous method of allocating calls in the VR1P series has been discontinued. OS, to Box 1337, Canton Island, 98736, via Hawaii.

6T1VP heard on 28600 at 0750 working into JA this is a Sdrar.

Z2AAA & YL operator, ORV on 14190 kHz at 1100Z.

UOCR a part of a sixing expedition to the North Pole. Offer ORV on 14150/14185 kHz SSB last reports put them more than 80 degrees N. SVS/JH ORV from Rhodes often on 15 SSB. QSL via DU5ZB.

Thanks go to VK4CK, VK4SS, VK8AJ, VK8LY, on air reports, "West Gulf DX Bulletin" and G Watts News Sheet. Happy Hunting. 73 Mike VK6HD.

My deadline for September issue is July 26th.

"GHAN" RAILWAY-MOBILE EXPEDITION

A railway-mobile DXpedition is planned from Marne, SA, to Alice Springs, NT. The event, which should take place before the end of September, is to celebrate the Golden Jubilee of the first rail link to Alice Springs. Frequencies in use will be between 3500, 7100, 14270, 21150 and 28400 kHz. Special QSLs will be printed for the occasion.

The station will operate from the famous "Ghan", which departs from Marne at 1470Z Monday night local time, arrives at Alice Springs 2130Z. It departs Alice Springs 1030Z Wednesday night and arrives back at Marne 1945Z (0515 SAT).

Zone 29 Boundary Award hunters will be interested in this event. Unfortunately confirmation of approval from the Commonwealth Railways for the venture is not yet at hand and so firm dates cannot yet be given. Details will be given in WIA broadcasts when available.

(Information supplied by Dick VK5DO)

73 es DX de Mike VK6HD.

QTHs YOU MAY HAVE MISSED

PSGK — Box 2650, Cochinamba
PH9CL — PO Box 20, Malote, via Reunion Island.
HNZ — Box 5640, Magnusus
KH3AA — Box 69, San Francisco, U.S.A.
K3ZBU — via WOPAH
OAAU — Box 538, Lima
ODSLX — via SMGMMG
OMZBP/DNH — PO Box 926, 00101, Helsinki 10
VP2DD — via W2OW
VP2ACD — via K1KEY
VR6DX — via WOPAH
VR6NH — via ZL1AD1
VS500 — via K1AD1
VY1FR — via W5OK
Y14SC — via PO Box 5646, Baghdad
Y1FMQ — Box 4272, Mansup.
Z520 — via DZK72
151DX — VK2BLU, Box 85, Round Corner, NSW 2158.
543QK — via SAMSAGW
9N1BMK — via JABBMK
9X5PM — PO Box 863, Kigali, Rwanda

ARCS — via K4CG
APSHQ — via NORR
CM2BL — via ONSVL
FK8CR — via W7OK
FR6HL — PO Box 90, Saint Pierre et Michelon, North America

GUSCIA — via N8MA
HMSAP — via JHANPP
HZ1HZ — PO Box 1099, Jeddah.
J6LD — via K4MZE
J7DD — via W2OB
JHREZ/JD1 — via JH1FYS.
NSRM/KCSB — via NSRM.
KX6BO — via W5IL
ODSNO — PO Box 7188, Beirut
WA7JRL/SU — via WBLZU
SU1DP — PO Box 138, Ismailia, Egypt.

SVDA — via K1KEY
TSTP — via DL7MQ
TK21TU — via F6CCQ.
TK31TU — via F8OP
TK61TU — via FK6FH
TK91TU — via F8RM
via K2001
VU2LHC — via American Embassy, New Delhi.
YB8ADT — PO Box 2634, Jakarta.
76FKF/Z8B — via F6CKB
5W1BX — via WOPAH
9N1BDM — PO Box 131, Kathmandu.

QSP

OVERSEAS LICENCE STATISTICS

As at 31st December each year the UK total licence figures for 1978 was 24,711, for 1968 it was 17,338, for 1958 the total was 9,116. The 1976 figure was 29,062, which included 4,036 mobile licences. The present licence combines both fixed and mobile licences into one licence. Radio Communications May 1979.

MAGAZINE INDEX

Syd Clark, VK3ASC

BREAK-IN March 1979

35 MHz Direct Conversion Transceiver, Modification of Pye Cambridge AM100 for 144 MHz, Speech Processing, Yaesu FT277R Memstar, Pye Cambridge AM100 C.c.h.h.

BREAK-IN April 1979

Plessey SL800 Transceiver L near Amplifier and RF Preselector 1 MHz Tm Base Oscillator and Power Supply, 2 Metre Yaesu FT277R Memstar

QST February 1979

Introducing the INCOHs, Lograding Your SB-220 Linear Amplifier, A First-Class Touch Tone Encoder, A 24-Hour Clock Bonus from the Accu-Memory, A Morse Blaster for the Coling 6-10, A 40 Metre Midjet, Digitized Speech, Part 2 Circular Orbits with Simple Computing Systems, Antenna Accessories for the Beginner, Why QSK? QRM Communication — Myth or History

QST March 1979

The Code Speedometer, A CMOS Control Circuit for Repeaters, JFET "Soup" for Tired Receivers, A Simple 10 and 15 Metre Converter, A Graphical Look at the L Network, Match-n-Work Design, Zip-Cord Antennas — Do They Work? Toward Cleaner Local-Oscillator Chains — Spectral Purity: ARES and You, Saturday Morning Flows: 1978 CAR-AM Contest Results, April QD Party — A1 ARRL Members, FMT Results, RF — Let Your Voice be Heard, Hams can Force FCC to FBI Inquiry, ITU Lays Technical Foundation for WARC 79

QST April 1979

A Low-Cost PC-Board Duplexer, The SHARC Audible Current Meter, The Why and How of Blister Film Contact Chokes Save Money — Build Your Own RF Choke, A Big Signal from a Small Lot, Some Commonly Asked Technical Questions and Their Answers: A Simple CW Audio Filter, Putting the Boots to Your Hi-Fi QRP Transceiver, Amateur Radio at the Bottom of the Earth, Pub to Service Before Disaster Strikes

RADIO COMMUNICATIONS May 1979

A Frequency Counter for a 144 MHz Transmitter, An Inexpensive High-Z Accurate Transistor Voltmeter, A Modification to the G3ZBS Digs. Morse Code Generator, The "Miracle" Sky Hook

CONTESTS

Wally Watkins VK2ZHW/NCU
Box 1088, Orange 2803

July:

14/15 IARU RAD OSPORT CHAMP ONSHIPS

August:

11/12 REMEMBRANCE DAY CONTEST
11 ZL Q.F. PARTY

October:

6/7 VK/ZL/OCEANIA DX CONTEST PHONE
13/14 VK/ZL/OCEANIA DX CONTEST CW

Contestants are reminded to read the rules for the "RD" contest carefully this year as certain changes have been made. Logs without a front-sheet will be automatically disqualified, as will unsorted logs.

EXPIRY OF LICENCE

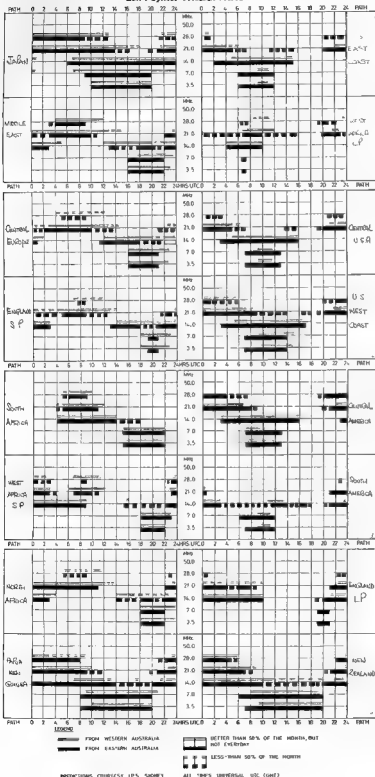
Ham Radio April 1979 quotes the FCC as now allowing amateurs whose operators licences expire five years instead of one year in which to renew them without taking the examinations.

US LICENCE FIGURES

April 1979 QST quotes the FCC as having 359,338 amateur licences issued by the end of 1978 representing a 9 per cent increase over the end of 1977 figures. Novices represented 62,856 of the total.

IONOSPHERIC PREDICTIONS

Len Poynter VK3ZGP/NAC



AWARDS COLUMN

Bill Verrall VK5WV

7 Alac Ave Flinders Park SA

NEW AUSTRALIAN AWARD

I have received details of a new award available in VK and issued by the Royal Naval Amateur Radio Society. The Society already sponsors two awards, the 'Mercury Award' for contacting members of the Society, and the 'Hampshire Award' for contacting amateurs in the English County of Hampshire.

The Society has announced a third award called the 'Endeavour Award' for contacting Society members residing in Australia. The title of the award links the Royal Navy with Australia.

RULES OF THE 'ENDEAVOUR AWARD'

1 The name of the award shall be the 'Endeavour Award' and shall be open to all radio amateurs.

2 Applicants must establish two-way amateur communications with RNARS members residing in Australia. Points will be awarded on the basis of one point per VK RNARS member worked per band after the commencement date of January 1st 1979.

To qualify, the following is required—

For amateurs residing in Australia: 15 points

For amateurs residing inside Oceania: 10 points

For amateurs residing outside Oceania: 5 points

In addition, for amateurs residing outside Oceania, contacts with VK RNARS members on the 3.5 MHz band will count double points. For the purposes of this award any RNARS maritime mobile member when located inside Australian waters may be counted as a VK member.

3 The award will be endorsed only on the request of the applicant and the following endorsements are available: 'ALL CW', 'ALL SSB', 'ALL 3.5 MHz', 'ALL 28 MHz', 'ALL NOVICE', 'FIVE BY FIVE'. The last endorsement is for getting at least five points on each of the five high frequency bands.

4 To claim the award no QSLs are required. However, full log details showing the VK number (OR/MM plus QTH) worked, the RNARS member, date, time, frequency mode, plus an application fee of \$150 Aust or 7 IRCs are to be sent to the Endeavour Award custodian, Mr R. Baty, 43 MMAS Australia Road Henley Beach South SA 5022. Australian Postage stamps are not payable in an Australian currency and are made payable to 'R. BATY'. Clearly state what endorsements are claimed. Certificates to successful applicants will be forwarded by airmail as soon as possible after the claim has been checked.

The certificate measures 250 x 195 mm, printed in three colours on high quality parchment. Society name and logo in royal blue, little in deep red remainder black.

VK RNARS lists are available from the custodian or the Australian organizer or use the general RNARS list from G3HZ-QTHR.

NEW EUROPEAN AWARD

'Brussels Millennium Award'

The Brussels Millennium Award committee has announced that this award will be issued on the occasion of the Brussels Millennium Celebration (1979-1979), which commenced on 1st January 1979, and continues to 31st December, 1979.

Contacts must be made with amateur stations from Brussels with the special prefix QS (1, 4, 5, 6, 7, 8). Contacts can be on any authorised mode in the bands 3.5 to 29.7 MHz. Operators from VK are required to work 10 stations from Brussels. The award is also available to SW.s, who must submit reports of 10 QSOs between stations from Brussels and outside Brussels. Contacts during contests are not valid.

To obtain the award forward a log extract and 3 IRCs to Brussels Millennium Award, PB 1000, 61040, Brussels 4, prior to 15th February 1980.

INTERNATIONAL AMATEUR RADIO SOCIETY

Allen Smith VK2AIR, the secretary of CHC Chapter 60, Australia, has advised that the founder and executive general manager of IARS, Cliff Evans RS6X, passed away on Friday morning, 30th March, 1979. All condolences may be addressed to Mrs. Evans as follows—M Jolly Evans, 3212 Mesa Verde Road, Rona, Ca, 92002, USA.

Allen will advise all Chapter 60 members when a replacement appointment has been made to the position. Any enquiries concerning IARS matters should continue to be directed to Allen at 111 Northcote Road, South Hills 2147, NSW.

LUSZY

I have previously accepted a few QSLs from this station for DXCC credit for the South Sandwich Islands. I have now rescinded credits given for this operation on the following reasons—

- The QSL does not strictly comply with paragraph 4.3 of our DXCC rules in that it does not show "the location or address of the station at the time of contact", and
- Advice contained in the February 1979 issue of the RSGB "Rad o Communications" is that "LUSZY was operating from Thule Island, which is a dependency of Farland Island, which is a crown colony. The unlicensed amateur radio station on Thule Island using the call sign LUSZY is therefore illegal. (Presumably he should have had a VPS call. Sorry folks!)

VE1MTA — SABLE ISLAND

It is now confirmed that the ARRL will not accept credits from this operation for DXCC credit. All credits previously given have therefore been rescinded. See my notes in June AR.

Simple procedural signals are covered, along with the alphabet and the numbers. These are important to a beginner as they are in constant use but are often left out of many simple books.

An easy to follow booklet which would complement a set of practice tapes.

Available from the WIA VK2 Division Education Service, together with the Morse practice tapes on C60 cassettes.

Sorry the wrong price for the right book. "Radio Frequency Interference How to Identify It and Cure It" by ARRL, Page 24, May AR. Price should read \$3.70 plus post (156p), instead of \$2.80.

HAMADS

- Eight lines free to all WIA members.
- 50 per 3 cm for non-members.
- Copy in typescript please or in block letters to P.O. Box 150, Torrak, Vic. 3142.
- Repeats may be charged at full rates.
- Closing date, 1st day of the month preceding publication. Cancellations received after about 12th of the month cannot be processed.
- QTHR means the advertiser's name and address are correct in the current WIA Radio Amateurs Call Book.

NEW

T8500 Transceiver c/w power supply, \$350; 14 AVO vert. ant., \$55; X beam, 400 VK2AGS, QTHR Ph (02) 438 9299 Bus., (02) 638 4191 A.H.

ICOM IC505 6m SSB Transceiver, excellent cond., with home brew 40W valve linear, 2000, VK2BHM. Ph (02) 476 2815

CMOS Keyer, built in paddle, dark green heavy case, variable speed, perfectly formed and spaced notes, inbuilt switchable sidetone, hardly used, just plug into TX; built from kit but find I prefer old brass key, \$25 or offer, including circuit, battery and postage. VK2BMT, QTHR

T8520, AC-DC, 1877 model, good cond., \$530, ONO; FT7 with car transmitter hump mount, 2 months old, 4400, ONO VK2AZT, Coolamundra. Ph. (069) 42 1382

Heathkit SB81B Monitorscope, \$200; Drake R4C RX with noise blanker and extra x125 for 160, 31, 25 and CB, \$500 VK3AIF, QTHR. Ph. (03) 857 5401

Yaesu 101B Transceiver with CW filter; ex-change for FT7 or FT7B, or sell \$600, ONO; 22 FM transceiver, sell with Ch. 40, 50, repeaters 42, 44, 46, 48, 74, \$150 VK4PM, QTHR Ph. (074) 62 1021

ICOM IC 280 2m FM Transceiver, power output about 15W, exc. cond., 4400 One condition—proof of a licence or operator's certificate or NO SALE Graham VK3ZPR, Leveilton. Ph. (03) 399 1837

Two Vinten VHF FM Lo-Band MTR 1B Transceivers in states of disrepair, good for rattling or maybe getting one going on 50 MHz, \$15 each Graham VK3ZPR, Leveilton. Ph. (03) 399 1837

Urgent Shakedown, Drake TX SSB/CW 200W DC input TX and AC power supply, Drake R4A RX with noise blanker and Drake filters, matching Drake MS-4 spkr, Drake MN-4 ant. matching network, wattmeter, SWR bridge, Dynamic desk mic., complete owner's manuals, mint cond., any inspection welcome, complete with new ATU-4 Cashcraft HF vert. ant. and cable, \$895, Cashcraft AT5-34 4-el. 10-15-20m trapped yagi, base aluminium, 18 ft. boom, 31 ft. elements, new in box, \$225, James VK3JO Ph. (02) 399 0428 Bus., or (02) 39 7756 A.H.

Mobile Antennas: RSE-2A stub for 144 MHz, RSL-5 for 80m, RSL-21 for 15m, and RSE-2 gutter mount, good cond., not used much, were \$85 the lot, sell for \$50. John Brereton VK2NHR, 27 Kent Ave., Brimsford, 5169, South Aust.

RX National (RRO type), with coil boxes covering 17 to 30 MHz, separate power supply included, \$150 or ONO VK3VIL Ph. (049) 97 6146.

Galaxy V Mk. 2 Transceiver, excellent cond., includes remote VFO, x call, VOX PCB, spk spare transistors and valves, some used, hand box and circuitry, \$400, ONO, to licensed amateur only VK3QY, QTHR Ph. (03) 93 5577

Heath HW-8 Transceiver, 80-15m, transmit CW, receive CW/SSB, VFO control, carefully built July 1978, 120 power, but Novice \$150. Send SASE for specs and log extract B. Wills VK4NBS, Hunt St., Forest Hill, Q., 4342

Collins S Line, selling out home and beach sets, 7535B/3253/56F2 240V, 200 W CW filter, DX processor, \$1500; 7551/3251/516F2, 117V, \$1200, stand by 7551/3251/local 240V, \$8, \$1000, all clear proven reliability VK3SK, QTHR Ph. (03) 527 1861

HW32A 20m SSB Transceiver, complete with power supply, manual, speaker, m.c., spare set of matched finals, covers 14 100 MHz to 14 350 MHz x two steps, \$200 Mike VK4DM. Ph. (07) 281 0032

FT740 w/h Yaesu AC supply/speaker and home brew external VFO, \$350, SL-55 used a active notch filter, 1000 VK4DK, QTHR Ph. (07) 281 1629

Quad 4-el 10 and 15m Fiberglass Spreaders, \$200; FT7 Yesu mobile, 3 weeks old \$380, 60 ft telescopic tower (Ph. 51), \$60, VK4HML, c/o 228 Rodger St., Loganholme 4128 Ph. (07) 829 8575

Uvidon 2200 Transceiver, 80m to 10m, very little use, incl spare finals, \$475, Oster-Block SWR power meter, \$45 VK2VB, QTHR Ph. (03) 702 1335

Heath SB300/RB400 matched RX/TX, spare valves plus manuals, excel cond., all leads, \$355, ONO; Icom IC22 R1 to 10, 50m exc. 40, 51, plus odds new cond., \$145 VK2HZ, QTHR Ph. (047) 51 1724.

SB802 20 Channels, CB Rig, 25 300 to 28 000, up 30 contacts, new, \$150, selling! \$100; Includes mic, AC and DC controls. VK4NGO 378 Pease St, Edge Hill, Cam, Qld. 4875 Ph. (070) 83 1448.

Kyokuto 2m FM Transceiver, 800 channels synthesized, incl accessories manual, ex new, \$295 fresh delivery Sydney VK2BSC, QTHR Ph. (06) 24 1447 A.H. Ph. (01) 22 211 Bus.

ICOM IC 7B1, as new, still in original carton incl mic and test book, etc, \$1100, Clif VK2VK Ph. (065) 52 4477 Bus., or (065) 59 1508 A.H.

ICOM IC245 with SSB adaptor fitted, excellent cond., in original packaging \$490 ONO VK2XRX Ph. (02) 826 2593

Yaesu FR67 Comm. Rx, as new, 12 months old, \$250, ONO, Stromberg-Carlson short wave and BC band, 7 type 5V15, WWII vintage, complete but not working, any offers Write VK2V-K 81 Arthur Street Forestville NSW 2087, or Ph. (02) 452 4302

Filo RX RB-99D, 500, Tech trapdoor GDO TV5, \$25; Leader spk, gen. \$911, 25 Ferrocat VT6M (1500V) \$25, power transformers 500V, 660V, 800V and 1500V, each side of CT 300 m.s., \$9 ex VK2YQ. QTHR Ph. (02) 861 3622

Novice to Full Call Technical, 500 questions, new, what you need for the next exam \$20 posted, the latest from K. Wilson, A.V. K2 Education Service, PO Box 109, Toongabbie 2740

TMS D82 Beam, \$150 VK3SK, QTHR Ph. (03) 527 1861

Autoc Audio Active Filter, Q1, selectivity, notch, and band pass filters, \$70 B. Bathols VK3JV, QTHR Ph. (03) 90 6424

FTDX401, new spare finals \$100 mic. good order \$400 VK5OT, QTHR Ph. (08) 261 5051

Microprocessor Course and Hands-on Trainer, safe way to learn machine language programming and interfacing, mint cond., Heathkit EE3401 course, T-3400 trainer \$350, ONO, Kyokuto FM144-105XPH Handbook, m.c., mob in and shack mounts, 14 wave whip, litte xed, \$200, AKA 400GDS Mk II stereo reel recorder, little used, inc. couple tapes, \$200 ONO, all items must go VK2BXP, QTHR Ph. (02) 886 2551 A.H.

Kenwood TS420, with factory installed digital read-out, CW filter, DC/DC conv., ext VFO (VFO 820), a time unmarked rig for a discerning amateur, in original carton, reluctant forced sale, \$1,000 B. Bathols VK3JV, QTHR Ph. (03) 90 6424 A.H.

The Famous Novice Kit contains more and theory, tests, tapes and 1000 typical exam questions, only \$15 posted, K. Wilson, A.V. K2 Education Service PO Box 109, Toongabbie 2740

BOOK REVIEW

TELEVISION INTERFERENCE MANUAL —

By B. Priestley.

Published by Radio Society of Great Britain.

The Television interference Manual provides a comprehensive coverage of this problem which all amateurs have at one time or another.

Chapters cover the causes, cures and social aspects of this problem. The causes and cures are useful but the social side or how to deal diplomatically with neighbours is most important.

The usual causes are dealt with, a though in some places the book of necessity uses the UK TV channels which are arranged a little differently to ours.

Similarly, there is little treatment of 300 MHz ribbon feeder. This is only a slight disadvantage as newer systems are using coax increasingly and the cures used for 300 MHz line are similar to those used with coax.

Another minor gripe is with the treatment of receiver radiation causing TVI. The RSO is now a rather old standard even if wiring to the higher speeds SSRI and standard receivers are all good candidates to cause TVI due to the first oscillator in the Triple Mix Scheme used.

The book, however provides a very good coverage of a most difficult and wide ranging subject. A definite must on the bookshelf of any ham shack. Available from Mapbooks.

VK3AJU

LEARNING MORSE CODE

By Rex C. Black VK3YA.

This booklet is designed to accompany a set of Morse practice cassettes produced by the Wireless Institute of Australia, NSW Division, Education Service.

The booklet is useful in that it explains many points on learning the code and helps the beginner to avoid the pitfalls.

The book is aimed at helping students to attain novice standard. All Morse code students must go through this standard even if aiming for higher speeds. The booklet points out the essentials of receiving and sending good Morse.

Yaesu FT101B 80-10m, \$550; **FT101B**, \$100. **VK4TT**, 1724 Mt. Cotton Rd., Burbank, Qld. Ph. (07) 590 2810.

Trio TS500 80-10m HF Transceiver, ex. cond., rarely used, with manual, \$400. **ONO**, VK2ZSC, Ph. (02) 574 2104, Steve, after 1730 EAST.

Learning Morse? Need a Set Speed Tape? You nominate any speed between 4-20 w.p.m., we will send you a C60 tape for \$2. **Fred Sanics**, VK2 Education Service, 4 Cooper Street, Blacktown 2148.

FR-101 Digital Yaesu Rr, mini cond., all modes, SSB, FM, RTTY, CW, all state, built-in 6 and 2m converters, coverage 160-2m, plus major S/W bands; **Yaesu's** top line Rr, \$500; will take FT7, FT620B or Barlow-Wadley XCR-30 Rr as part payment. **VK4JX**, QTHR, Ph. (074) 62 2596.

Ext. VFO (VFO \$25), suit Kenwood TS820/820S, perf. cond., \$150. **B. Bathole** VK3JUV, QTHR, Ph. (03) 50 6424.

Edison Home Phonograph and 42 Cylinders, will not separate, can arrange inspection in Melbourne, what offers? **M. Cihir** VK3HC, QTHR, Ph. (052) 52 1908.

Argonaut 800 HF Terr., new cond., operates well, \$350; **Drake** comm Rr, SSR-1, \$200. Will deliver articles within Melbourne area, upon discussion, free of charge. **VK3CAQ**, Box 326, Laverton 3028.

Kenwood TS120B, new HF solid state Transceiver, with cooling fan, built-in protection for final transistor and English manual, \$690. **VK3BS**, QTHR, Ph. (03) 550 3521.

Atlas 215X/NB 160-15m, all solid state, C/W Atlas frequency display, crystal clock adaptor, mobile bracket and AC power supply, \$550; **Trio-Kenwood TS-820B** with CW filter and DC supply, \$850; **Ken** C-215 C/W nicad batteries and charger, \$170. **A. Nutley** VK3NA, Ph. (02) 530 5122 Bus.

FT101, good working cond., bands 80, 40, 20, 15, 10, 8, 6, 2 and 12V DC operation, complete with both sets of cords, mic. and manual, \$450. **ONO**, VK3JY, QTHR.

Learning Morse Code? Now commercially printed code, excellent value, \$5.50 posted, with two C60 Morse cassette. **K. Wilson**, Vix VK2 Education Service, PO Box 108, Toongabbie 2146.

Yaesu FR100B-FLJ00B, matched Rr-Tx, 250W PEP, just overhauled and re-valved, ex. cond., \$320; as new **FL210CB** linear, \$425, **ONO**; as new **Y0100** monitor scope, ex. cond., \$260, **ONO**; **Osekerbolt SWR** 200 power/SWR meter, 20/200/2,000, still in box, priced to sell, \$55; all with manuals. **VK6BG**, Box 40318, Casuarina 5792, NT. Ph. (089) 27 1895 A.H.

Yaesu FTV550 5m Transceiver, as new, matches FT401 series equip., \$150. **VK5XK**, QTHR, Ph. (08) 71 9566.

Unwanted GHz, location limits usage, one Multi-Palm II complete, plus xkals, repeaters 4, 5, 7, 8, plus AC/DC charger, offers. **VK2YN**, QTHR, Ph. (048) 27 1842.

IC226 with mobile mounting bracket and 2m 5/8 whip, \$300; **Barlow-Wadley XCR-30** Rr, \$200. **R. Hollis**, 69 Spence St., Pt. Vernon 4855, Ph. (071) 28 2765.

Swan 500W Terr., 500W PEP input, 230 XC PS spher., 508 external VFO Vx-2 Vox, \$750. **W. Bixler** VK4JY, 19 Simita St., Toowoomba 4350, Ph. (078) 32 9192.

Belcom Liner 19 Transceiver, 28.480-28.710 VKXO, 10 kHz shift, continuous coverage, new, 2 mths. old, \$220; **Shure 401A** hand mic., new, \$32; **HC210** antenna coupler, new, \$75. **VK7NAB**, Ph. (003) 51 7914.

Johnson Kilowatt Matchbox, as new, includes SWR meter, \$200. **VK1HB**, QTHR, Ph. (082) 68 0062, (062) 55 5385 Aus.

Beam Mosley TA333R Tri-band, buyer collect, \$100; speech processor, CDX ampers audio tape, \$30. **VK3WV**, QTHR, Ph. (03) 465 2961.

Ten Tec 544 Transceiver with external power supply, 100w, 1st cond., \$1,000. **Ralph VK5NRD**, C/O P.O. 2 Hardy Street, Croydon Park 5008, SA, or Ph. (08) 46 6262.

TS520B, mint cond., 12 months old, \$600, **ONO**; **Gemtronics 3325**, converted to 10m, 20 kHz shift on clarifier, excellent mobile rig, \$115, **ONO**. **VK3MEX**, Ph. (03) 44 2601.

Kenwood TS520B, absolutely new, never used and in original package, selling because of illness, still in warranty, \$550. 17 William St., Henley, via Gladesville 2111, Ph. (02) 89 2530.

WANTED

Must Clamp for Dales DR 7500S Rotator, must be in v.g. cond. **Peter Ginnell** VK3NVJ, Ph. (053) 39 2520.

.005 pF or similar high voltage mica RF block condensers, **VK3ACA**, QTHR, Ph. (03) 306 2069 A.H.

Copy of Instruction Manual for Tech TE-15 GBO, will pay. **Nick Lock** VK4NCY, 250 Flanagan St., North Rockhampton 4701.

Remote VFO, external speaker, **Yaesu** antenna tuner, all for FT101E, and manual for FTDX 400, VK4CZ, 14 Alice St., Townsville, Q. 4814, Ph. (077) 79 9645.

Any information or specifications for an AWA VHF Comm. Rr type C5917; DCA type R-30, covering the aircraft band. **VK1NAM**, 21 Foxall St., Holder, ACT 2611.

Galaxy Five, working or not, **VK3NVJ**, 68 Edward St., Tamworth, Ph. (057) 65 5539 A.H.

High Voltage HF Block Mica Capacitors, .001 to .005 microF, also one six 1/2 standard PMG rack with base. **VK3ACA**, QTHR, Ph. (03) 306 2069.

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Donations of no longer required surplus equipment, to aid, train and possibly equip, future blind operators from "The Northern Territory Blind Assoc." Write to **VK6BG**, Darwin DX Working Group (NTBA), Box 40318, Casuarina 5792, NT, or Ph. (089) 27 1895 A.H.

1 (one) Toyomura KP-12A RF Speech Processor, will pay top price for one, must be 100 per cent cond. **VK7NOW**, Ph. (004) 26 1529.

Valves, type 6BE6, 6A05, 9X5, RL18, 2040, 2C43, 2C96, 4468, old VHF UHF Rr's, old radar equipment. **VK2ZHS**, QTHR, Ph. (03) 58 5390.

Ken Radio Amateurs to attend NO Convention, must be in good working order. Contact **VK4WV**, QTHR.

Hilafairlines HT33B or HT41 Linear Amplifier, John Wallace VK3VU, QTHR, Ph. (054) 43 2803.

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QSL Cards, Log Books, Contact Sheets — send 20c stamp for samples and prices to **Linda Luther** VK4VVO, PO Box 498, Nambour, Qld. 4560.

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For a very long time commercial advertising has not been accepted in AR Hamads, but as the result of discussions at the 1978 Federal Convention decision was made to open up a "Hamads-Trade" section. The rate will be \$10 for 4 lines plus \$2 per line (or part thereof), minimum charge \$10, prepayable. Copy is required by the first day of the month preceding publication. This will mean that in future ordinary Hamads submitted from members who are deemed to be in the general electronics detail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes. ■

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OBITUARY

ARTHUR INGHAM BERRY VK3CZ

It is with deep regret that we record the passing of Arthur, who died on 15th May after suffering a stroke on Easter Saturday. We wish to express sincere sympathy to his wife, Margaret, and their family.

Arthur received his licence in 1930, and was a very active "ham", mainly on CW. In latter years he concentrated on DX on the 160m band — and earned the ARRL's DX CC.

In addition to "ham" radio he had a vast general knowledge and was vitally interested in music. He was a fine violinist. He was educated at Scotch College and Melbourne University, where he was one of the first to receive a Degree in Architecture. He was an expert in reinforced concrete and construction.

For many years he has lived at East Warburton, farming part-time and also working as a Consultant for the Melbourne City Council in connection with Uniform Building Regulations—another field in which he was expert.

Arthur was a man of great integrity, he had a wonderful personality, and was a true friend who will be sadly missed.

Contributed by Athol Fritchard VK3CF (a close friend for 50 years).

FREDERICK GEORGE BAIL VK3YJ
Although Fred began his days in the workforce as a carpenter, another interest, wireless, had captivated him. By 1939, at age 20, he had obtained an amateur licence and when war broke out it was his knowledge of radio communications rather than his trade that was needed. Initially he was an instructor at the Ballarat Radio School with the rank of Warrant Officer. Later he was transferred to 82 Fighter Squadron and served with this unit until the war ended.

Fred and his brother, Jim VK3ABA, returned to the building industry but the lure of electronics was strong and Fred was soon installing and servicing Hi-Fi and radio sets. After graduating at the Marconi School of Wireless, Fred turned his attention to TV where he arrived in 1958.

Although active on all HF bands, VHF had a special fascination for Fred, particularly 168 MHz and later 144 MHz. Many happy hours were had operating portable on these and other frequencies. Mobile operation in his diesel engine cars became another feature of his activities.

In 1954 he became Federal Councillor for the Victorian Division of the WIA and served in many other capacities in the following years—Secretary 1955-56, President 1957-58, and Vice-President 1959 to 1962. For a number of years he relayed the Sunday Broadcast on 144 MHz and conducted a slow morse practice on Sunday evenings on 3.58 MHz. During his term as President, the Division and VK3WJ were established in Victoria Parade.

In 1961 Fred visited Japan and made contact with several electronic manufacturers. He brought back with him a 20W SSB transceiver made by Yaesu. A 100W version became available very shortly after and Fred and Jim launched a small enterprise that developed into one of Australia's largest suppliers of amateur equipment—Bali Electronic Services.

Fred has been a frequent visitor to country and interstate areas, firstly as a member of the Victorian Division and later with trade displays.

In spite of an obviously busy life he found time to encourage youngsters who showed interest in the hobby that had given him so much pleasure. Quite a few amateurs have gained their licence because of "Uncle" Fred's interest and assistance.

Fred died suddenly on 26th May. To his wife, Gladys, and his brother, Jim, we extend our sincere sympathy.

(VK3AFW)

VALE

MARY CLARA WILLIAMS BLACK
With the sad passing of Mary Black at Springwood, NSW, on 13th May, amateur radio lost a supporter of long standing.

A lady of much charm and many talents, the Minister delivering the eulogy at her cremation amongst other facts, described her as the mother of the WIA's Youth Radio Scheme.

Her husband, Rex VK2YA, for over two decades had worked unceasingly to ensure his "brain child", the YRS, was firmly es-

tablished and later was to play a prominent part in the ultimate granting of the Novice licence.

During this time Mary not only supplied moral support but assisted directly with the multitude of duties, letter writing, certificate issuing, entertainment, etc. She could clearly appreciate Rex's aims and often provided a guiding hand, needed during the difficult periods in the establishment of any scheme.

Amateurs throughout Australia extend their deepest sympathy to Rex on the loss of a wife and to his family on the loss of a mother.

By Bill Moore VK2HZ.

JOHN R. MOYLE VK2OZ
John, well known in many States, died on April 5, 1979, quite suddenly.

In the early 30s he first operated from Laurel Hill, near Batlow, as VK2E. No power was available so 135V of "K" batteries powered the HT, and quite a potent signal.

His career was varied—he joined the RAAF, became VK2EZ, returned to civilian life, and rejoined the RAAF early in WWII, to be discharged as a Squadron Leader, Signals.

Having obtained a commercial ticket, he flew with Qantas as a wireless operator in DH86s and Flying Boats.

Around 1950 he moved to WA and as VK2EZ was very active on the HF bands. He served with the Department of Air and B/C stations for many years.

On his retirement, just over six years ago, he returned to NSW to operate as VK2OZ. An unassuming man, willing to help anyone with a problem, he will be remembered for his generosity in providing the elusive component from a "junk" box of incredible proportions. An ardent supporter of the WIA and OCWA, John enjoyed nothing better than to yam to his fellow amateurs at the monthly informal "lorums" at Palm Beach.

To his twin daughters, Louise and Shirley, both in WA, amateurs extend their sympathy.

Unfortunately his wife predeceased him some years ago.

By Bill Moore VK2HZ

MERVYN LAURENCE CONWAY VK7CL
Mervyn Conway died on April 2nd, 1979, after a long illness, being active on the air until a month before his death. First licensed in March 1938 as VK7CL, Merv was an active amateur through the last 40 years of advances in radio technology. An early experimenter and home brewer, Merv took particular delight in working up a circuit from first principles and finding it work as a consequence of the theory rather than in spite of it. Amateurs in many parts of the world will miss his exemplary operating technique and the friendly help he gave to operators whose mother tongue was not English.

Unmarried and a teacher for 40 years, his influence on several generations of students was great not only in the classroom but also because of the time he gave his students in such extra-curricular activities as swimming, bush-walking and hobby interests; many amateurs owe their initial spark to him.

One aspect not widely known about Merv was his quiet but practical generosity to the disadvantaged and the underprivileged. His friendship and caring concern will be remembered not only by those who knew him well, but also by many in New Guinea and the Pacific who partook of his unselfish hospitality.

From S. Gladick VK8GL.

SILENT KEYS

It is with deep regret that we record the passing of—

Mr. J. C. BATTLER	VK7JB
Mr. F. G. BAIL	VK3YS
Mr. M. BARRY-COTTER	VK3SX
Mr. M. J. MacGAVIN	L30819
Mr. A. I. BERRY	VK3CZ
Dr. R. M. IRWIN	VK4FI
Mr. M. L. CONWAY	VK7CL
Mr. H. J. W. HALL	VK3EK

CLIFF EVANS K6BX-5K
HAM EXTRAORDINARY

Almost everyone who has any interest in DX or International Awards Programmes will have heard, by now, of the death on 30-5-79 of Cliff Evans K6BX—the Old Man as he was known to Hams in almost every corner of the world. This outstanding and controversial character was a Ham for 65 years and, at one time or another, held calls from some two dozen countries spread around the globe. In all, he used over 40 different prefixes.

After retiring from the Navy with the rank of Commander, where he was for twenty-three years a naval aviator, he finally settled in Bonita in South California. Here, amongst many other activities, he proceeded to create the biggest Awards Programme that Hamdom has ever seen and is likely to see. His CHC (Certificate Hunters' Club) has Chapters in over one hundred countries. He also established a large FPC (Flying Hams' Club), the IARIS (International AR Journalistic Society), etc. On the journalistic and editorial side, he produced quarterly the BIG "D" (a directory of awards) and the EXTRA NL. He also wrote countless articles on every subject pertaining to AR.

Besides the CHC and FHC Awards Programmes, he adopted the role of one of AR's most vocal critics. He voiced his opinions of any one, body or group, via his newsletter THE EXTRA, in a blunt and forceful journalistic style—naturally, these public comments and exposures were received unfavourably by many. However, his fan mail never diminished and the various Chapters of CHC, in most countries, yearly increased in membership.

Your scribe here corresponded with the Old Man for over fifteen years, mostly on matters pertaining to awards. It is impossible to know anyone this long, even through correspondence, and not begin to know the real Cliff Evans. Like all of us, he had his "warts", but under that rather blunt assertive exterior there were several soft spots—one being his concern about the charitable attitude to AR's "limping men". It was part of his programme that any blind, handicapped, or permanently ill Ham could participate in the Awards Programme with no monetary costs whatsoever; and he saw to it that as many as possible received free magazines and call books, etc.

Together with AR and a distinguished naval career, he found time to take degrees in Political Science, Radio Engineering, Psychology and was a member of the USA Journalistic Society, viz. Sigma Delta Chi.

He was a man of outstanding ability and had a driving force that enabled him to achieve the work of three men in his lifetime. As long as AR remains as it is, the call CHC Evans K6BX will be permanently part of it.

A. Sherrin VK4SS.

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VFO. 520-S External VFO for 520-S
VFO. 820. External VFO for 820-S
VFO. 700-S External VFO for TS-700-SP
SM-220 Station monitor
BS-8 and BS-5 PAN adaptor
SP-820 Deluxe Speaker consul
SP-520 Speaker consul
SP-70 Speaker consul for TS-700 & 600
VOX-3 Vox unit for TS-700 & TS-600
DS-1-A DC converter for 520-S & 820-S
DG-5 External digital display TS-520-S
AT-200 Antenna coupler
MC-30-S Microphone 500 OHM
MC-35-S Microphone 50. K. OHM
MC-10 Microphone 50. K. OHM.
MC-50 Deluxe desk Microphone dual imp
HC-2 Deluxe Ham clock
YG-68 CW. filter for TS-820
YC-3395 CW filter for TS-520
LA-30-A Lowpass filter
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